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A Comparison between the Water Law Reforms in South Africa and Scotland: Can a Generic National Water Law Model Be Developed from These Examples?

ABBREVIATIONS USED

| | |
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| ADB | Asian Development Bank |
| CMA | Catchment Management Agency |
| CMS | Catchment Management Strategy |
| CoPA | Control of Pollution Act 1974 (c.40) (United Kingdom) |
| DWA | Department for Water Affairs |
| DWAF | Department for Water Affairs and Forestry |
| NVZ | Nitrate Vulnerable Zone |
| NWA | National Water Act 1998 (South Africa) |
| NWRS | National Water Resource Strategy |
| RBD | River Basin District |
| RBMP | River Basin Management Plan |
| RQO | Resource Quality Objective |
| SE | Scottish Executive |
| SEPA | Scottish Environment Protection Agency |
| UNDP | United Nations Development Program |
| UNECE | United Nations Economic Commission for Europe |
| WIC | Water Industry Commissioner |
| WICC | Water Industry Consultative Committee |
| WMA | Water Management Area |
| WSA | Water Services Act 1997 (South Africa) |

ABSTRACT

Many governments have been prompted by water shortages and inadequate infrastructure to re-assess their water management regimes. The aim of this article is to compare the reforms made in two very different nations, South Africa and Scotland, and to examine the best parts of each with a view to establishing a model

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national water law framework. The article assesses the hydropolitics of both countries, along with the reforms and their implementation, and critically compares these in the context of international best practice and relevant regional agreements. It concludes that a model framework could be implemented in more affluent nations, irrespective of climate, but would not be workable in very poor nations.

I. INTRODUCTION

Many governments are increasingly aware that their national water resources are being rapidly diminished through abuse or over-use. This has prompted them to reassess, and where necessary restructure, their water management regimes. The aim of this article is to assess and compare the reforms made in two countries, South Africa and Scotland, and to examine the best parts of each with a view to establishing a model national water law framework. The reforms in South Africa and Scotland have been chosen as the subjects principally because both nations have recently implemented extensive legislative reforms, especially in relation to water. Both nations are democracies resulting from recent constitutional upheaval, and their legislative reforms can be seen, in part, as an effort to distance themselves from the anciens regimes. Besides this, both countries lie at opposite extremes in many ways—Scotland is small, relatively rich and has an abundance of water, whereas South Africa is many times larger and has a predominantly poor population subsisting on often scarce water resources.

The formulation of a single national water law model is essential because such an arrangement would drastically reduce the amount of work required by countries wishing to reform their legislative regimes. Such a framework would allow countries to adopt their own mechanisms to suit national priorities, while ensuring that the legislation meets the standards demanded by international best practice. If a model can be found that would be suitable for countries as disparate as Scotland and South Africa, it is possible that it could be used for almost any other nation, thereby setting identifiable targets for new legislation. This article aims to set out the objectives of such a model by assessing international best practice and identifying those elements of good water law that might be applicable to all nations, irrespective of their climate and economic conditions. It will also critically assess the success of the reforms in South Africa and Scotland in matching international best practice. This will be done by dissecting the reforms in each country and comparing them against the stated objectives, successful practices in other nations, and relevant international agreements.

Structure

One of the main arguments against a single national framework is that any reforms must take into account the political, cultural, economic, and climatic features and history of each state.¹ The South African experience, however, militates against this position.² Parts II and III will therefore examine the hydropolitics of both nations, followed by an analysis of the relevant legal backgrounds. This will allow comparison with the reforms so that the magnitude of change may be evaluated.

Part IV is based loosely on the three critical stages of water resource development identified by Wouters, those of "legal entitlement," "framework for allocation," and "compliance, dispute avoidance, and dispute settlement."³ Less space will be devoted to the third of these as it is of more importance in the international sphere than in the national.

Entitlement forms the basis of any water law regime as allocation and access provisions must be formed within this context. Consequently, the entitlement regime will have a decisive impact on the other mechanisms and rules within the water law system and will have provided the basis for historical legal developments.

Part IV will provide an analysis of the provisions for allocating water, detailing those aspects of water use that may be enjoyed without permission from a regulatory body or bodies, and those uses that are unlawful in the absence of such a permit. The factors governing allocation of water use rights will depend on the standards of quality and quantity of water that the government seeks to maintain or fulfil pursuant to its demand management and health goals. However, the reforms in Scotland and South Africa are unusual insofar as they have made protection of the environment an aim in itself. Both quality and quantity are seen by both countries as being inextricably linked to the environment. Consequently, the provisions for ensuring environmental protection as well as water quality are explored as an extension of

1. See e.g. DANTE A. CAPONERA, *PRINCIPLES OF WATER LAW AND ADMINISTRATION* 174 (1993).

2. WHITE PAPER ON A NATIONAL WATER POLICY FOR SOUTH AFRICA, ¶ 5.1.2, Dept. of Water Affairs and Forestry (DWAF) (Apr. 30, 1997), explicitly states that "[i]n allocating water resources in the public interest, the Government cannot be bound by past decisions which may be inappropriate in the light of current knowledge or inconsistent with current needs," available at <http://www.dwaf.gov.za/Documents/Policies/nwppw.pdf> (last accessed Aug. 15, 2003) [hereinafter WHITE PAPER ON WATER POLICY].

3. Patricia Wouters, Salman M.A. Salman, Patricia Jones, *The Legal Response to the World's Water Crisis: What Legacy from the Hague? What Future in Kyoto?*, 4 U. DEN. WATER L. REV. 418, 422 (2001).

allocation. The article goes on to explore the fact that many of South Africa's largest rivers are international in nature, which, in turn, compels the country to consider international obligations at the licensing level.

Part V reflects the truth of Caponera's comment that "the success of any water resources management policy depends to a large extent, on the existence and smooth functioning of adequate operating organs within an institutional framework."⁴ Hence, an analysis of any water law regime must assess the institutional capacity to implement policy. However, in order for the capacity and capabilities of the institutional arrangements to be fully realised, the compliance of the public is required—"[w]ater users must be involved in the governance of water resources."⁵ It is therefore essential to assess the extent to which the new reforms have addressed questions of public participation, upon which the two countries set such importance. The institutional arrangements must also ensure that all relevant organisations and departments are involved in planning and policy making for any river basin-based management system. This requires the establishment of procedures setting out statutory consultees and makes certain that any decisions that might potentially affect or impact a river basin are taken with the management strategy for that basin in mind.

With the information gleaned from parts IV and V, part VI assesses the potential for taking the best aspects of both regimes and creating a water law model that might be used in any nation, whether dry, wet, rich, or poor. Received opinion has it that the frameworks adopted by each nation will depend on that country's particular circumstances, thereby denying the possibility of a universal model. Parts VI and VII will question this view and examine whether or not it is possible to formulate a credible ideal model. An ideal framework might be useful in that it could help galvanize the link between overseas development aid and improved water resource management in poor countries. But such a model should certainly not be pursued as an end in itself. Any framework must address the twin concerns of integrated and participatory management and equitable allocation. The framework is the means of achieving those ends.

II. HYDROPOLITICS

Before examining the respective national water laws, some background regarding the hydropolitics and socio-economic

4. CAPONERA, *supra* note 1, at 169.

5. Symposium, *Urgent Action Needed for Water Security: Stockholm Statement 2002*, available at http://www.siw.org/Anders/Steph/downloads/2002_Stockholm_Statement.pdf. (last visited Aug. 14, 2003) [hereinafter *Stockholm Statement*].

environments of each country is necessary. The physical environment provides an additional context within which a legal regime operates. One of the reasons behind choosing Scotland and South Africa as the subjects of this article was to compare the regimes in nations that are at polar extremes in many respects. Scotland has comparatively generous quantities of water available to a relatively small and wealthy population, while South Africa receives relatively little rainfall and has a population that is, on the whole, very much poorer than Scotland's.

II.A Economic Environment

South Africa is defined as a Low Middle Income economy by the World Bank, although its Gross National Income per capita, at US \$3020, is slightly higher than normal for such states.⁶ Its GDP per capita of \$8908 is comparable to that of Poland, Estonia, and Chile.⁷ It does not therefore rank as one of the world's poorest nations. However, the historical advantages enjoyed by the white minority have resulted in large income disparities—the white population lives largely in a first world environment, while a significant minority, 11.5 percent of the total population, subsists on less than US \$1 per day.⁸ This is comparable to figures for nations with far lower per capita Gross National Incomes.

6. See The World Bank Group in South Africa, available at <http://www.worldbank.org/afr/za/>. (last visited Aug. 14, 2003). The threshold between lower and upper middle income economies is US \$2,936, see The World Bank Group, Data and Statistics: Country Classification, available at <http://www.worldbank.org/data/countryclass/countryclass.html> (last visited Aug. 14, 2003), but the Bank presumably ranks it in the lower grouping as a result of the large gap between rich and poor in the country—no explanation is provided. In his speech to the 2002 Stockholm Water Symposium, Minister of Water Affairs and Forestry in South Africa, Ronnie Kasrils refers to South Africa as a "middle-income country." See Ronnie Kasrils, Speech to Stockholm Water Symposium, (Aug. 12, 2002), available at <http://www.dwaf.gov.za/Communications/Minister%20speeches/> (last visited Aug. 14, 2003).

7. The figure stated is from 1999. See UN Development Programme, Human Development Report 2001, available at http://hdr.undp.org/reports/global/2001/en/indicator/indicator.cfm?File=cty_f_ZAF.html. (last visited Aug. 14, 2003) [hereinafter Human Development Report 2001].

8. *Id.* The US \$1 per day criteria is a widely recognised indicator for poverty, see Human Development Report 2001, *supra* note 7. It should also be noted that the same report reveals that in South Africa the richest ten percent of the population enjoys 45.9 percent of total consumption, compared to the 1.1 percent shared by the poorest ten percent. In the United Kingdom, the comparable figures are 27.3 percent and 2.6 percent respectively. The UK figures are themselves relatively extreme when compared with other European countries, although the United States is more extreme still. The richest ten percent in South Africa have one of the largest shares of consumption in the whole world, being exceeded only by, Swaziland and Zimbabwe and a number of Latin American States.

The population of South Africa grew by 1.6 percent in 2000, to 42.8 million,⁹ of which 23.54 million were urban.¹⁰ The urban population has been growing rapidly in recent years, but the UN Development Programme (UNPD) expects this rate to slow.¹¹

Scotland lies at the other extreme. The GNP per capita in 1998 was US \$20,235.¹² It is barely one-fifteenth the size of South Africa,¹³ with a much lower population¹⁴ concentrated mainly in a narrow urban belt across the south of the country.

The economic position of a country is important as to the development of water reforms. This is because a country's economy will affect the finances available for infrastructure improvements and the ability of its population to pay for water and sanitary service provision.

II.B Respective Water Resources

South Africa's rainfall appears to echo the human discrimination of the past. Almost half of the rainfall in the country falls on only 13 percent of the land,¹⁵ the rain falling mainly to the east and southeast of Bloemfontein in the southeastern part of the country.¹⁶ Average rainfall is

9. The World Bank Group, Data and Statistics, *supra* note 6, South Africa Data Profile. However, this appears to be arguable—in the Department for Water and Forestry Affairs website for Free Basic Water, the total population is shown to be 46,151,624. The rates of increase shown by the World Bank and UNDP do not appear to justify such a rise in population since 2000. See Free Basic Water, Implementation Status, at <http://www.dwaf.gov.za/FreeBasicWater/Defaulthome.asp> (last visited Aug. 26, 2003).

10. That is 55 percent of the total population. See The World Bank Group, Data and Statistics, South Africa Data Profile, August 2003, available at <http://www.worldbank.org>.

11. See Human Development Report 2001, *supra* note 7.

12. See Scottish Executive, Scottish Economic Statistics 2003, available at <http://www.scotland.gov.uk/stats/ses/ses-00m.asp> (last visited Oct. 6, 2003). The figure is given in Sterling, and the US dollar amount has been calculated using the Sterling/US dollar rate of 1.67, as shown on Bloomberg.com, at <http://www.bloomberg.com/> on Oct. 6, 2003.

13. Scottish Executive land cover and land use statistics show a total surface area of around 79,000 km². See Scottish Executive, Scottish Environment Statistics Online: Land Cover and Land Use, available at <http://www.scotland.gov.uk/stats/envonline/menu0.asp> (last visited Aug. 15, 2003). South Africa is over 1.2 million km² in size. The World Bank Group, Data and Statistics, *supra* note 6, South Africa Data Profile.

14. The estimated population in 2000 was 5,114,600. Office of National Statistics, Population and Migration, available at <http://www.gro-scotland.gov.uk/grosweb/grosweb.nsf/pages/00sect2> (last visited Aug. 15, 2003).

15. L.J. Abrams, *Policy Development in the Water Sector—The South African Experience*, in WATER POLICY: ALLOCATION AND MANAGEMENT IN PRACTICE, at 22 (Peter Howsam & Richard C. Carter eds., 1996).

16. ENVIRONMENTAL MANAGEMENT IN SOUTH AFRICA 280 (Richard F. Fuggle & Marinus A. Rabie eds., 1992).

low, at 497mm per year,¹⁷ but this disguises the huge disparities within the country. Both rainfall and a great deal of river flow are seasonal¹⁸ and, more importantly, both are erratic.¹⁹ This has resulted in a hemorrhaging of dam building in order to store such water as does fall. Fuggle and Rabie state that in 1992 there were 550 government dams and a far higher, though unquantifiable, number of private dams that did not fall under state control.²⁰ The central part of the country, constituting half of the land surface of South Africa, receives only a quarter of the rainfall.²¹

Utilisation of water resources over the country as a whole remains well within the theoretical maximum available. However, this is expected to change drastically in the near future: according to Basson,

Now looming is the full utilisation of the overall conventional water resources of the country, which is likely to occur in about 30 years should the efficiencies of water utilisation by the different user sectors not be dramatically improved and should the current growth trends in primary and urban (domestic and industrial) water requirements, mainly as a result of population growth, continue to apply. Should further large scale irrigation development be allowed, at will, this situation will be reached at a much earlier date.²²

This doomsday scenario has already been realised in a number of regions, including some of the most densely populated, which receive less water than they require,²³ thus necessitating interbasin transfers.²⁴ Currently, the Vaal River system is projected to receive the largest of these transfer projects, the Lesotho Highlands project, which will transfer water from the Senqu/Orange river in Lesotho.²⁵ It is also proposed that the same river should receive a further transfer from the Thukela River,

17. See UN Environment Programme, State of the Environment Report—South Africa: Sustainability of Freshwater Resources, available at <http://www.ngo.grida.no/soesa/nsoer/issues/water/pressure.htm> (last visited Aug. 15, 2003).

18. ENVIRONMENTAL MANAGEMENT IN SOUTH AFRICA, *supra* note 16, at 277.

19. See *id.*

20. *Id.* at 282-83.

21. *Id.* at 648.

22. M.S. BASSON, DEPARTMENT OF WATER AFFAIRS AND FORESTRY (DWAF), OVERVIEW OF WATER RESOURCES AVAILABILITY AND UTILISATION IN SOUTH AFRICA 65 (1997), accessed on the DWAF website, available at <http://www.dwaf.gov.za/Documents/Other/Water%20Resources/index.htm> (last visited Aug. 15, 2003).

23. For details of the areas that have been the worst affected, see generally *id.*

24. There were 18 such operational interbasin transfers in 1997. *Id.* at 54.

25. For further information, see the Lesotho Highlands Water Project website, available at <http://www.lhwp.org.ls/> (last visited Aug. 15, 2003).

although final determination on this has not been made yet.²⁶ Great reliance is placed on surface water as there is comparatively little groundwater available,²⁷ and what little there is is of poor quality.²⁸ The primary source of water is surface water from rivers and streams and from stored water. Naturally occurring freshwater lakes are very rare.²⁹

South Africa also suffers from a number of other problems that compound the scarcity of water. High reliance on irrigation for agricultural land,³⁰ coupled with high rates of evaporation and local geology, have led to salinisation, rendering soil unusable and irrigation impossible in some areas.³¹ Stream flow has been curtailed by alien invasive plant species (often encouraged by nutrient-rich effluent), such as the water hyacinth, which may also cause increased evapotranspiration rates.³² The growth in population referred to above³³ and increased prosperity mean that predicted levels of water consumption are expected to rise at almost double the rate of population increase.³⁴

Additionally, all of South Africa's principal river systems are transboundary. South Africa shares national borders with Namibia, Botswana, Zimbabwe, Mozambique, Swaziland, and Lesotho, and its main rivers are inexorably linked to all of these. The Orange River, South Africa's largest, has its source in Lesotho and forms the southern border between South Africa and Namibia. In the east, the Limpopo begins in Botswana and flows east to form the frontier between South Africa and Zimbabwe before flowing into the sea in Mozambique. Similarly, the Incomati and Maputo rivers emerge in South Africa and flow through Swaziland and Mozambique to the Indian Ocean. Consequently, all the countries of southern Africa are mutually dependent on each other to some degree in terms of receiving adequate flows from these rivers. All

26. See Thukela Water Project, available at <http://www.dwaf.gov.za/thukela> (last visited Aug. 15, 2003).

27. See ENVIRONMENTAL MANAGEMENT IN SOUTH AFRICA, *supra* note 16, at 647.

28. *Id.* at 483. For detailed maps and very useful information regarding available water resources, see also BASSON, *supra* note 22.

29. ENVIRONMENTAL MANAGEMENT IN SOUTH AFRICA, *supra* note 16, at 278.

30. *Id.* and ABRAMS, *supra* note 15, state that 50.9 percent of total water use is for irrigation. BASSON, *supra* note 22, at 10, however, states that the figure is as high as 54 percent.

31. ABRAMS, *supra* note 15, at 286.

32. *Id.* at 292.

33. See The World Bank Group, *supra* note 9.

34. See BASSON, *supra* note 22, at 10. Currently, domestic and urban use of water accounts for approximately 11 percent of all water use. This compares with a theoretical environmental usage of 19 percent, and eight percent by mining and industry. The remaining eight percent is taken up with the runoff consumption of forestry.

are signatories to the Protocol on Shared Watercourse systems in the Southern African Development Community (SADC) Region.³⁵

Scotland lies at the very opposite extreme as regards the problems it faces with its supply of water. Its average annual rainfall is around three times as high as the South African average,³⁶ and the generally low temperatures result in less evaporation. At current levels, 16,000 m³ of water is available to be used by each person in Scotland annually,³⁷ compared with 1110 m³ for South Africa and a worldwide average of 7045 m³.³⁸ There are 24,400 km of rivers, out of a total of 127,500 km, that have a basin size of greater than 10 km².³⁹ Only three of these rivers cross the border with England, the Solway, Tweed, and Tyne, and the peculiar issues raised by international waters are therefore much less relevant in Scotland's case.⁴⁰

III. NATIONAL WATER LAW REGIMES: HISTORY

III.A Introduction

Before examining the water law regimes of both nations, it will be useful to briefly assess the relevant legal histories of the two. The new reforms have been precipitated by environmental, social, and legal factors, and to some degree they also contribute to efforts to remedy past legal uncertainty, unfairness, and confusion. This historical review should also allow a critical assessment to be made as to the success of the reforms compared to the problems they were intended to resolve. Examples of comparable practices in other countries are also important for illuminating or humbling a particular aspect of the proposals.

35. For a more detailed discussion of the international aspects of South Africa's water resources, see WRI, *infra* note 37.

36. The average annual precipitation between 1961 and 1990 was 1350mm. Figures derived from Scottish Executive, Environment Statistics Online: Climate Change and the Ozone Layer, Annual Precipitation Records, available at http://www.scotland.gov.uk/stats/envonline/_data/CCprecipitation.xls (last visited Aug. 15, 2003).

37. *Id.* Even this is not high on a worldwide scale—Suriname, for example, has 479,467 m³ per capita. World Resources Institute, Earth Trends: Water Resources and Freshwater Ecosystems, [hereinafter WRI], available at <http://earthtrends.wri.org/> (last visited Aug. 15, 2003).

38. *Id.*

39. Data available from the SEPA Digitised River Network website, available at <http://www.sepa.org.uk/data/classification/digirivnet.htm> (last visited Aug. 15, 2003). Further data obtained from personal email from Ingrid Baber, Environmental Quality Planner at SEPA (July 29, 2002) (on file with author).

40. Very little detail exists at this stage regarding the future administration of these rivers, as no plans have yet been made public by the Scottish Executive on the issue, aside from the fact that both the Environment Agency and SEPA will have to coordinate their efforts.

III.B South Africa

III.B.1 Legal context

The legal system in South Africa reflects the colonial powers that have had most impact there. It is historically based on Roman-Dutch law but has incorporated elements of English Common Law.⁴¹

In Roman law, a distinction was made between the water in a river and the nature of that river. Free-flowing water was designated as *res communes*, which meant that it was incapable of permanent ownership.⁴² Rivers were divided into public and private rivers, the former being perennial and the latter seasonal.⁴³ The alveus and banks of public rivers were classed as *res publicae*. Thus, although ownership of the alveus was held by the state and the banks by the riparians,⁴⁴ the public had the right to use them for the purposes of fishing and navigation, and more importantly, had the right to divert and use the waters flowing therein.⁴⁵ The position with respect to the water (as opposed to the channel) remained the same in private rivers, although both the alveus and the banks were owned by the riparian landowners, who retained the sole right of use of the water. In both cases, public and private, access to the water for non-contiguous landowners was dependent upon the existence of servitudes and prescriptive rights.

South Africa maintained the distinction between public and private rivers, again primarily based on the nature of the river. Echoing the position under Roman Law, a river was considered to be public even if it occasionally ceased flowing.⁴⁶ However, this principle was gradually eroded, from the mid-nineteenth century onwards, by a combination of unilateral judicial interpretation and legislative definition. Fuggle and Rabie quote two cases in particular that introduced the alien concept of riparianism, whereby public rivers could be used only by their respective

41. ENVIRONMENTAL MANAGEMENT IN SOUTH AFRICA, *supra* note 16, at 653.

42. DIG. 1.8.2.1 (Alan Watson et. al. eds., 1985) "[a]nd indeed by natural law the following belong in common to all men: air, flowing water, and the sea, and therewith the shores of the sea." However, see also W. BUCKLAND & P. STEIN, A TEXT-BOOK OF ROMAN LAW FROM AUGUSTUS TO JUSTINIAN, 184-85 (3rd ed. 1963), for a discussion on the differing points of view expressed in the Digest regarding the extent of public rights with respect to *res publicae*. See also the Institutes of Justinian, *infra* note 45, for further details.

43. Watson, *supra* note 42, at 43.12.1.3.

44. *Id.* at 1.8.5.

45. See J. INST. 2.1. for an unequivocal statement that the use is public rather than the ownership; cf. BUCKLAND & STEIN, *supra* note 42. See also Anthony Scott & Georgina Coustalin, *The Evolution of Water Rights*, 35 NAT. RESOURCES J. 821, 836 (1995); Robyn Stein, *South Africa's New Democratic Water Legislation: National Government's Role as Public Trustee in Dam Building and Management Activities*, 18 J. ENERGY NAT. RESOURCES 284, 292 (2000).

46. See ENVIRONMENTAL MANAGEMENT IN SOUTH AFRICA, *supra* note 16, at 654-55.

riparian landowners,⁴⁷ and public rights of use were therefore denied. Public rivers thus became rivers "containing only water destined for private use."⁴⁸ With regard to the ownership of the water itself, The Water Act of 1956 provided that such ownership of public water was not possible, thereby following the Roman model to a limited extent only—the waters of private rivers are notably absent from this definition.⁴⁹

The definition of public rivers and streams was extended such that by the time of the Water Act, it covered all rivers, and ground water, that flowed (perennially or not) in a defined channel and that were capable of irrigating the land of two or more riparians on that river.⁵⁰ Coupled with the decision of *Retief v. Louw*,⁵¹ the result was that the notion of the public stream or river in the Roman sense was lost—whether or not a river was public depended on its irrigation potential and whether it was useable only by its riparians. The only part to remain in the public domain was the tidal area, which belonged to the State President.⁵² Furthermore, a single river could be both public and private if the channel of a public river became ill defined in the course of its progress to the sea, for example, where it flowed through a wetland area.⁵³ Such an area would then revert to the ownership of the person who owned the piece of land it occurred on. If a river flowed through the land of only one riparian, it was owned by that riparian exclusively.

While the fact that the original civil law principles had been buried is important, the imposition of riparianism is not in itself disastrous: riparianism in a more benign Scottish context will in fact be discussed below.⁵⁴ It is suggested that in Roman law the practical difference between public and private rivers, from the perspective of water use, was one of access. Despite the fact that the state owned the banks and alveus of a public river, the water could only be used if access was available to it. If the owners of the land above the banks refused to allow such access, whether by way of servitude or not (and in the absence of an implied servitude associated with the *res communes*), the

47. *Retief v. Louw* 1874 Buch 165 and *Hough v. Van der Merwe* 1874 Buch 148, noted in ENVIRONMENTAL MANAGEMENT IN SOUTH AFRICA, *supra* note 16, at 657.

48. *Id.*

49. Water Act 54 of 1956, s.6(1) (repealed in 1999 but provisions still in effect).

50. *Id.* s.1, quoted in ENVIRONMENTAL MANAGEMENT IN SOUTH AFRICA, *supra* note 16, at 656. This distinction also applied to ground water; see also R. Lyster & P. Lazarus, *The Problem with Ground Water in South African Law*, 112 S.A.L.R. 440, 444 (1995). Section 5 of the Water Act provides that the owner of private water has the exclusive use and enjoyment of that water, although it appears that this applied only to ground water once it had been taken out of the ground, Lyster & Lazarus, *supra*, at 446-50.

51. ENVIRONMENTAL MANAGEMENT IN SOUTH AFRICA, *supra* note 16, at 654-55.

52. *Id.* at 657.

53. Water Act 54 of 1956, *supra* note 49, s.1.

54. See *infra* section III.B. of this article.

right to take from the communal property of the water was of little use. Likewise, with respect to private waters: the water in the river was communal, but access to it was dependent upon the riparian. In South Africa, it was the impact of land allocation legislation and other statutes limiting the rights, activities, and movements of the black majority that transformed riparianism into an immensely damaging regime. The effect would have been the same had the water allocation regime been unaffected by the legislative and judicial modifications referred to above, because public rights to water, even when it was regarded as *res communes*, would also have been very limited. Legislation from the beginning of last century onwards had the effect of prohibiting the black majority from owning heritable property.⁵⁵ Every effort was made to remove blacks from urban areas and to ensure that they could live only in the so-called "homelands,"⁵⁶ with the result that 75 percent of the South African population inhabited only 13 percent of the country.⁵⁷ The effect of these efforts coupled with a *de facto* riparian regime meant that the allocation of water resources in South Africa was very heavily biased in favour of the white, land owning minority. The "homelands" were politically emasculated, with the consequence that local authority administration developed to a very limited extent and, overwhelmingly, in white areas only.⁵⁸ As a consequence of this, the tradition of local government and democracy in South Africa is a relatively recent phenomenon.

III.B.2 Water Quality

Historically, the control of water pollution was the responsibility of the Department of Water Affairs (DWA), acting primarily under the

55. See Natives Land Act, no. 27 of 1913. For further information, see *ENCYCLOPAEDIA BRITANNICA MACROPAEDIA*, entry for Southern Africa, at 925. See also Stein, *supra* note 45, at 285.

56. See, for example, the notorious Natives Land Act, *supra* note 55, and the Natives (Urban Areas) Act 1923, with its many amendments. The latter was responsible for the creation of racially segregated districts in urban areas. For a more comprehensive assessment of all relevant legislation, see also T.R.H. DAVENPORT, *SOUTH AFRICA: A MODERN HISTORY* 233-34 (4th ed. 1991).

57. See ABRAMS, *supra* note 15, at 23. It should also be noted that the land upon which the homelands were to be established was also the worst land. It was regarded by the SANNC (the predecessor of the African National Congress) as being "unsuitable for human habitation as also for agricultural or pastoral requirements, seeing that it has been studiously selected on the barren, marshy and malarial districts." See *SOUTH AFRICAN NATIVE NATIONAL CONGRESS, RESOLUTION AGAINST THE NATIVES LAND ACT 1913 AND THE REPORT OF THE NATIVES LAND COMMISSION*, at <http://www.anc.org.za/ancdocs/history/early/resolution161002.html> (last visited Aug. 27, 2003).

58. See *ENCYCLOPAEDIA BRITANNICA MACROPAEDIA*, *supra* note 55, at 913.

provisions of the Water Act of 1956.⁵⁹ However, as Abrams points out, the DWA had no authority in the "Homelands,"⁶⁰ thereby seriously compromising its effectiveness. Its effectiveness was further eroded by the fact that the DWA's powers under the Water Act were concerned principally with the taking of water for industrial uses and the subsequent transformation of that water into polluted effluent. While it was an offence under the Water Act to conduct an activity in a way that might pollute a river system such that it became less fit for an ordinary purpose, such as fish propagation or recreation,⁶¹ the courts were reluctant to prosecute in instances where actual harm had not been suffered.⁶² Those using water for industrial purposes were under an obligation to treat the resulting effluent,⁶³ and a licence issued by a dedicated Water Court was necessary in order to use water in that way. Local authorities, however, were exempt from these requirements.⁶⁴

The system was characterised by confusion and lack of direction due to the large number of governmental departments involved.⁶⁵ Policy capable of having an impact on the environment was produced by up to eleven government and provincial departments,⁶⁶ and coordination between the various departments and the administering bodies was negligible. Land use control was beyond the remit of the DWA, although it formerly had the power to require that a farmer remedy pollution-causing activities if the Minister was of the opinion that the activity was causing or likely to cause pollution.⁶⁷ There was no catchment basis for water resource management, and the administrative areas established by the DWA were a compromise between existing political boundaries and catchment areas.⁶⁸ By 1997, it was estimated by the South African government that between 12 and 14 million people lacked access to safe water, and up to 20 million were without adequate sanitation.⁶⁹

59. See ENVIRONMENTAL MANAGEMENT IN SOUTH AFRICA, *supra* note 16, at 470.

60. See Abrams, *supra* note 15, at 23.

61. Water Act 54 of 1956, *supra* note 49, s.23(1)(a), quoted in ENVIRONMENTAL MANAGEMENT IN SOUTH AFRICA, *supra* note 16, at 470. No standard was set for this reduction in quality.

62. ENVIRONMENTAL MANAGEMENT IN SOUTH AFRICA, *supra* note 16, at 487.

63. *Id.* at 471-72.

64. *Id.* at 485.

65. See also WHITE PAPER ON WATER SUPPLY AND SANITATION 3-7 (Nov. 1994), available at http://www.polity.org.za/html/govdocs/white_papers/water-sani.pdf. (last visited Aug. 27, 2003), for further information on the legal and institutional background to water provision in the country.

66. See ABRAMS, *supra* note 15, at 24.

67. ENVIRONMENTAL MANAGEMENT IN SOUTH AFRICA, *supra* note 16, at 477.

68. *Id.* at 459.

69. WHITE PAPER ON A NATIONAL WATER POLICY FOR SOUTH AFRICA, *supra* note 2, ¶ 2.2.3. In 1994, the figures were 12 million and 21 million respectively. See WHITE PAPER ON WATER SUPPLY AND SANITATION, *supra* note 65, introduction.

III.C Scotland

III.C.1 Legal context

The legal histories of Scotland and South Africa are similar to the extent that they have inherited legal regimes that combine the influence of the English Common Law tradition with a Civilian foundation. Scotland's common law maintains the Roman distinction between public and private rivers, but the characterisation depends on whether or not the water is navigable, and not on the perennial nature of the flow.⁷⁰ Consequently, a river will be public as far upstream from its outflow into the sea as it may be navigated and will become private upstream from that point. The major difference between the two types is based on ownership of the banks and alveus and corresponding rights of use: those of the public part are owned by the Crown, whereas in the private regions, the banks and alveus are owned by the respective riparians.

Scots law also inherited the concept of common interest in running water from Roman law. In Ferguson's opinion, Stair was only half right in his contention that "[r]unning waters are common to all men because they can have no bounds, but water standing and capable of bounds is appropriated" because this only applied to public rivers.⁷¹ But a broader interpretation of Stair is appropriate;⁷² practical considerations of access would certainly make a nonsense of common interest in the flowing waters of a private river, but that is no reason to suppose that the general rule does not stand. In fact the same problem would occur with public rivers as well. Without an associated servitude allowing access to a public river, flowing water would only be useable by the riparians thereto, and no such servitude exists.⁷³ Standing water, however, as Stair points out, belongs to the owner or owners of the land on which it stands.⁷⁴ As in South Africa, groundwater fits awkwardly within its legal categorisation and is deemed to be public or private depending on whether it flows through a defined channel or not. The

70. There is a presumption that navigability is synonymous with the tidal parts of the river. See THE LAW SOCIETY OF SCOTLAND, *THE LAWS OF SCOTLAND: THE STAIR MEMORIAL ENCYCLOPAEDIA* ¶ 305 (1989). The perennial component of public rivers has been dropped, presumably because the likelihood of a river drying up in Scotland is slim. Consequently, the dividing line between public and private parts of a river in both Scotland and South Africa, at its outflow point at least, was the same, both depending on the tidal nature of the river.

71. JAMES FERGUSON, *THE LAW OF WATER RIGHTS IN SCOTLAND* 169 (1907), quoting VISCOUNT STAIR, *THE INSTITUTIONS OF THE LAW OF SCOTLAND* II. i. 5 (Edinburgh 1681).

72. See THE LAW SOCIETY OF SCOTLAND, *supra* note 70.

73. *Id.* at ¶¶ 348-354.

74. *Id.* at ¶ 338.

owners of private water bodies may do as they wish with the resource, subject to pollution legislation and to the law of nuisance.⁷⁵

Under the Scots common law, there is a "common interest of all riparian proprietors in the water and its being passed on down the system unaffected as to flow or quality save as permitted by the superior [i.e. upstream] proprietor's use of the water for primary purposes."⁷⁶ "Reasonable" use for domestic and agricultural purposes was permitted, reasonableness being determined by "having regard to the other interests in the stream."⁷⁷ Uses are divided into two groups, ordinary (or primary) and extraordinary: the first included reasonable use for domestic purposes, with the latter being industrial or commercial uses. However, the law regarding the status of such uses in the case of drought is uncertain, on the basis, presumably, that the event is so unusual in Scotland that no comprehensive law was required to govern it. The question has been raised as to whether or not an upstream proprietor could be permitted to satisfy extraordinary uses at the expense of the ordinary use of someone further downstream.⁷⁸ The question is unanswered, but I would submit that on the basis of the above, the superior proprietor could only lawfully utilise the water for ordinary purposes, as the downstream riparian has the right to receive the quantity unaffected "save as permitted by the superior proprietor's use of the water for primary purposes."⁷⁹ The law has developed with an emphasis on the rights of property enjoyed by the riparians and their right to enjoy their land without interference.⁸⁰

III.C.2 Water quality

The law in Scotland regarding water quality and water supply, aside from the proposed reforms, is very complicated. In relation to environmental management, the Scottish Environment Protection Agency (SEPA) was established by the Environment Act of 1995⁸¹ to replace and consolidate a number of regulatory bodies. Its aim is to

75. For further information on the law of nuisance in Scotland, see FRANCIS MCMANUS & ELEANOR RUSSEL, *DELICT* ch. 12 (Scotland 1998). See also *RHM Bakeries v. Strathclyde Regional Council* (1985) S.C. (H.L.) 17 and *Kennedy v. Glenbelle Ltd.* 1996 S.C.L.R. 411 (regarding the requirement of culpa in Scots nuisance law).

76. THE LAW SOCIETY OF SCOTLAND, *supra* note 70, ¶ 318.

77. *Id.* ¶ 330, referring to *Hunter and Aikenhead v. Aitken's Trs.* (1880) 7R 510. See also the judgement of Lord Neave in *Morris v. Bicket* (1864), 2M. 1082; 4M. H.L. 44, quoted in FERGUSON, *supra* note 71, at 199.

78. THE LAW SOCIETY OF SCOTLAND, *supra* note 70, ¶ 334.

79. See MCMANUS & RUSSEL, *supra* note 75.

80. See *id.* (regarding the law of nuisance).

81. Environment Act 1995 (c.25), s.20, available at <http://www.scotland-legislation.hmso.gov.uk>.

"provide an efficient and integrated environmental protection system for Scotland which will both improve the environment and contribute to the Government's goal of sustainable development,"⁸² and it is specifically charged with promoting the cleanliness and conservation of water supplies.⁸³ SEPA issues so-called consents allowing discharges of pollutants, although the status of these discharges is not monitored. SEPA admits that the number of live discharge consents is uncertain as there is no obligation on the part of polluters to inform SEPA if the consent is no longer necessary.⁸⁴ As an environmental regulatory body, SEPA is also responsible for air pollution control, waste management licensing, and a number of duties related to radioactivity. Forestry and agricultural land use are largely beyond the remit of SEPA, except as the general pollution legislation affects them, and are generally governed by voluntary codes of practice and internal strategy.⁸⁵ In areas that have been designated as Nitrate Vulnerable Zones (NVZs), SEPA has powers of monitoring with respect to agricultural land use.⁸⁶ Legislation enforceable by SEPA is voluminous and disparate and includes the transposition of a number of important pieces of EC legislation.⁸⁷ The consequence of the extensive changes made to legislation, combined with the large number of regulations, is an impenetrable morass of rules.

The abstraction regime in Scotland is minimal⁸⁸—SEPA has control of abstractions only in the limited circumstances covered by s.17 of the Natural Heritage (Scotland) Act of 1991 and the Spray Irrigation (Scotland) Act of 1964 and must be consulted by the planning authority

82. See Scottish Environmental Protection Agency website, at <http://www.sepa.org.uk/> [hereinafter SEPA].

83. Environment Act 1995, *supra* note 81, s.34.

84. SEPA, *supra* note 82, at <http://www.sepa.org.uk/about/functions.htm>.

85. See, for example, Prevention of Environmental Pollution from Agricultural Activity code (PEPFAA) and Scottish Forestry Strategy (2000), available from the Forestry Commission website, at <http://www.forestry.gov.uk/forestry/HCOU-4U4J33>; see also SEPA informational leaflets, available at the SEPA website, *supra* note 82.

86. See The Protection of Water Against Agricultural Nitrate Pollution (Scotland) Regulations 1996, S.I. no.1564 of 1996, reg.4; The Action Programme for Nitrate Vulnerable Zones (Scotland) Regulations 1998, S.I. no.2927 of 1998. See also the Designation of Nitrate Vulnerable Zones (Scotland) Regulations 2002, S.S.I. no.276 of 2002, for the designation of the most recent NVZs.

87. The principal domestic legislation in force with regard to pollution control includes the following: Control of Pollution Act 1974 (c.40) [hereinafter CoPA], as amended by sch.23 of the Water Act 1989 (c.15), and by sch.16 of the Environment Act with regard to offences; part 1 of the Environmental Protection Act 1990 (c.43) relating to Integrated Pollution Control; the Urban Waste Water Treatment (Scotland) Regulations 1994, S.I. no.2842 of 1994; the Groundwater Regulations 1998, S.I. no.2746 of 1998; and the Pollution Prevention and Control (Scotland) Regulations 2000, S.S.I. no.323 of 2000.

88. What is an "abstraction"? For further information on the role of SEPA in controlling abstraction, see SEPA, *Policy Guidance Note: Responses to Consultations on Abstractions*, at <http://www.sepa.org.uk/policies/pdf/18.pdf> (last visited Aug. 27, 2003).

in the event that an environmental impact assessment is required for a particular development.⁸⁹ The prospect of a fully integrated water resource management regime is rendered almost impossible by this lack of a comprehensive, centrally controlled abstraction regime.

Water supply and sanitation provisions are now provided by one group, Scottish Water, which is an amalgamation of the three former regional water authorities.⁹⁰ Despite being a publicly accountable body, it is operated through a corporate model. The vast majority of Scottish households receive their water supply and sewerage services from Scottish Water.⁹¹ Further examination of the role, objectives, and duties of Scottish Water will be made below.⁹²

IV. NATIONAL WATER LAW REFORMS: SUBSTANTIVE RULES

IV.A Introduction

On the basis of the above brief analysis of the historical development of the legal regime and, in Scotland's case, the position at the moment, examination of the reforms will be done in the context of the problems they were intended to remedy. This chapter will look at the solutions utilised with regard to each component of the water law and assess the measures using examples from other nations. In order to give a comprehensive overview of the reforms, the substantive rules will be assessed first.

IV.B South Africa

IV.B.1 Background to the reforms

In South Africa, the reforms were a direct result of the historic elections of April 1994, the first involving universal suffrage. Shortly after these elections, the Government of National Unity embarked on a

89. Environmental Impact Assessment (Scotland) Regulations 1999, S.S.I. no.1 of 1999, regulation 3.

90. Scottish Water was established by the Water Industry (Scotland) Act 2002 asp.3, s.20, at <http://www.scotland-legislation.hmso.gov.uk/legislation/scotland/acts2002/20020003.htm> (last visited Aug. 25, 2003).

91. According to the consultation document by Scottish Executive, *Private Water Supply Regulation* (Nov. 2001), available at <http://www.scotland.gov.uk/views/views.asp> (last visited Aug. 25, 2003) [hereinafter *Private Water Supply Regulations*], a total of 83,194 people, or 1.63 percent of the population of Scotland, use private water supplies, the largest proportion being in Aberdeenshire. See *id.* tbl. 3.1 for further details. The consultation document relates to proposals to review the regulation of such water supplies but has not yet been finalised.

92. See *infra* section V.C.2 of this article.

Reconstruction and Development Programme aimed at eliminating poverty: the objective of ensuring universal access to water and sanitation was seen as a central pillar of this program.⁹³ The White Paper on Water Supply and Sanitation of 1994 was intended to remedy "the current absence of coherent policy in this area,"⁹⁴ and its spirit was based on the equality demanded by the interim Constitution of 1993.⁹⁵ Eight principles were set out as the basis for the policy of allowing all South Africans to have access to adequate water and sanitation facilities:

- Development should be demand driven and community based.
- Basic services are a human right.
- "Some for All," rather than "All for Some."
- Equitable regional allocation of development resources.
- Water has economic value.
- The user pays.
- Integrated development.
- Environmental integrity.⁹⁶

In 1996, the interim constitution was replaced by a more permanent document, as required under ch.5 of the original. This document, "the collective wisdom of the South African people,"⁹⁷ contained separate and distinct rights to water and to an environment that was not harmful:

Environment

24. Everyone has the right—

- a. to an environment that is not harmful to their health or well-being; and
- b. to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that—

93. WHITE PAPER ON WATER SUPPLY & SANITATION, *supra* note 65, at 1.

94. *Id.* at 2.

95. REPUBLIC OF SOUTH AFRICA CONST. act 200 (1993). Section 29 provided that "[e]very person shall have the right to an environment which is not detrimental to his or her health or well-being." There was no right to adequate water—this was added in the 1996 constitution.

96. WHITE PAPER ON WATER SUPPLY & SANITATION, *supra* note 65, at 8.

97. REPUBLIC OF SOUTH AFRICA CONST. act 108 (1996), Explanatory Memorandum.

- c. prevent pollution and ecological degradation;
- d. promote conservation; and
- e. secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development...

Health care, food, water and social security

27. (1) Everyone has the right to have access to—
- a. health care services, including reproductive health care;
 - b. sufficient food and water; and
 - c. social security, including, if they are unable to support themselves and their dependants, appropriate social assistance.
- (2) The state must take reasonable legislative and other measures, within its available resources, to achieve the progressive realisation of each of these rights.⁹⁸

In the light of the Minister's comments in the White Paper on Water Supply and Sanitation, these rights may be seen as more aspirational than practical. This is underlined by the fact that the government put itself under the obligation (s. 27(2) above) to allocate adequate resources as a step towards the realisation of these rights.

A further step in the direction of making these rights a reality was taken in 1997 with the publication of the White Paper on Water Policy in April of that year.⁹⁹ While the 1994 document concentrates principally on the immediate practical problems of ensuring that as many people as possible have the opportunity to enjoy their constitutional rights, the 1997 paper is concerned with the management of waters and the legal and policy foundations on which that management is based. Both papers have their rough equivalents in the landmark legislation that followed closely after the 1997 White Paper—the Water Services Act of 1997 (WSA) and the National Water Act of 1998 (NWA).¹⁰⁰ With respect to ownership, which will be examined next, the twenty-eight "fundamental principles" contained in Appendix 1 of the 1997 white paper illuminate the provisions of the NWA.¹⁰¹

98. *Id.* (as adopted May 8, 1996, and amended Oct. 11, 1996).

99. WHITE PAPER ON WATER POLICY, *supra* note 2.

100. Act 108 (1997) [hereinafter WSA] and Act 36 (1998) [hereinafter NWA], respectively.

101. WHITE PAPER ON NATIONAL WATER POLICY FOR SOUTH AFRICA, *supra* note 2, Appendix 1.

IV.B.2 Ownership

In South Africa, as has been shown, ownership in public rivers had been abolished by the Water Act 1956. The continuing dominance of the white landowners, however, meant that this was of little use to those non-landowners who wanted water. The NWA addresses this inequity from the outset. Section 3 sets out "the foundation of the new water law":

3. (1) As the public trustee of the nation's water resources the National Government, acting through the Minister, must ensure that water is protected, used, developed, conserved, managed, and controlled in a sustainable and equitable manner, for the benefit of all persons and in accordance with its constitutional mandate.

(2) Without limiting subsection (1), the Minister is ultimately responsible to ensure that water is allocated equitably and used beneficially in the public interest, while promoting environmental values.

(3) The National Government, acting through the Minister, has the power to regulate the use, flow, and control of all water in the Republic.¹⁰²

The government, as trustee on behalf of the population of South Africa, is therefore responsible for the administration of the country's water resources, for the benefit of that population. In terms of ownership, this is not, *prima facie*, very different from the Water Act regime it replaced insofar as there is no ownership by individuals. The Water Act, though, was only applicable to public waters,¹⁰³ while the definition of "water resource" in s.2 of the NWA is sufficiently broad to encompass all waters, including surface and ground waters, wetlands, and estuaries.¹⁰⁴ The distinction between public and private waters has been removed altogether. The provision does not go quite as far as its precursor, principle 2 in Appendix 1 of the 1997 White Paper,¹⁰⁵ but with

102. *Id.* ¶ 5.1.2.

103. Water Act 54 of 1956, *supra* note 49.

104. Ch.1.1.(1)(xxvii), "water resource" includes a watercourse, surface water, estuary, or aquifer" and a watercourse is stated in section xxiv to be:

;b(a) a river or spring;

(b) a natural channel in which water flows regularly or intermittently;

(c) a wetland, lake or dam into which, or from which, water flows; and

(d) any collection of water which the Minister may, by notice in the Gazette, declare to be a watercourse, and a reference to a watercourse includes, where relevant, its bed and banks.

105. NWA, *supra* note 100. Principle 2 states that "[a]ll water, wherever it occurs in the water cycle, is a resource common to all, the use of which shall be subject to national control.

the exception of perhaps cloud seeding, it is in practical respects the same. The public trust approach adopted is not limited to South Africa—it is, for example, also used in respect of natural resources in Hawaii.¹⁰⁶

The major consequence of adoption of the public trust model is that decisions regarding the allocation of water resources can be made by the Minister for Water Affairs and Forestry. It is he, and his ministry, who must decide how to allocate water use in such a way as to fulfill the objectives of the Act, and of the Reconstruction and Development Programme. The ownership of the resource forms the basis on which allocation regimes can be established and it is here that the aims of the 1997 White Paper have been concentrated. It should be borne in mind that the objectives of the White Paper relating to equity are threefold: equity in access to water services, equity in access to water resources, and equity in access to the benefits from water resource use.¹⁰⁷ The allocation regime can facilitate only the last two of these and must be combined with the efforts made under the Water Services Act in order to provide the first as well.

IV.B.3 Allocation

The NWA begins with a presumption that a water use is permitted only if licensed by the responsible authority.¹⁰⁸ There are only two types of use that may be carried out without a licence:

- reasonable domestic use, domestic gardening, animal watering, fire fighting and recreational use¹⁰⁹
- continuation of an existing lawful water use.¹¹⁰

Existing lawful uses¹¹¹ must however be registered as such: they are not licensed unless the responsible authority decides they should be, but

All water shall have a consistent status in law, irrespective of where it occurs.” (emphasis added).

106. HI. CONST. art. XI, s.1 (2000), available at <http://www.hawaii.gov/lrb/con/> (last visited Aug. 27, 2003). See also Stein, *supra* note 45, at 289, for further discussion of the public trust doctrine in the United States.

107. WHITE PAPER ON WATER POLICY, *supra* note 2, at ¶¶ 4.1.1–4.1.4.

108. Defined in NWA, *supra* note 100, Ch. 1 s.1.1(xx) as the Catchment Management Agency if powers have been delegated to it, and otherwise the Minister. See also *id.* s.22(1)(b).

109. A more detailed breakdown of these uses is given in *id.* Schedule 1.

110. *Id.* Ch.1, s.4 (2).

111. *Id.* Ch. 4, pt.1, s.21 (defining water uses, including abstraction, storage, discharges of pollution, and certain other controlled and stream flow reduction activities. Existing lawful water uses are defined in Ch.4, pt.1, s.32:

(1) An existing lawful water use means a water use—

must be registered so that their lawfulness can be verified.¹¹² Consequently, only domestic use requires no form of authorisation. In 1996, urban and domestic water use amounted to approximately ten percent of all water use in South Africa,¹¹³ so the country now requires authorisation or registration for around 90 percent of its water use. A two-tier system is the result, which allocates water on the basis of right or authorisation alone.¹¹⁴

In addition to establishing a permit system for the majority of its water uses, the NWA created a buffer to protect two of the fundamental subjects of the act—public interest and the environment.¹¹⁵ In order to safeguard the resources necessary to ensure that basic human needs are met and that ecologically sustainable development of water is facilitated, NWA Ch.3 pt.2, s.16 demands that reserves be set for both. This obliges the Minister to set standards for both the quantity and quality of water needed to protect basic needs and the environment of a particular water resource.¹¹⁶ These reserves must be respected with regard to any allocations made under the Act.¹¹⁷ The difficulty with the right to draw

(a) which has taken place at any time during a period of two years immediately before the date of commencement of this Act; or

(b) which has been declared an existing lawful water use under section 33, and which—

(i) was authorised by or under any law which was in force immediately before the date of commencement of this Act;

(ii) is identified as a stream flow reduction activity in section 36(1); or

(iii) is identified as a controlled activity in section 37(1).

Other lawful existing water uses may be declared by a responsible authority under section 33.

112. See GN R/1352 1999, ss.3, 6,10. Schedule 1 uses are specifically exempt under section 10. See also the website of the DWAF, at <http://www.dwaf.gov.za/Projects/WARMS/English.htm> (last visited Aug. 25, 2003). Licences, or verification of the lawfulness of an existing water use, may be required under NWA, Ch.2 pt.2 s.35.

113. See BASSON, *supra* note 22, at 52. Urban and domestic uses make up $2,171 \times 10^6 \text{ m}^3/\text{a}$ out of a total of $20,045 \times 10^6 \text{ m}^3/\text{a}$. It is unclear what proportion of domestic uses are existing lawful uses.

114. See also General Authorisations in terms of s.39 of the NWA, GGR/1191 of October 8, 1999, available at <http://www.dwaf.gov.za/Documents/Notices/Gen Auth> as published eng.doc (last visited Aug. 25, 2003).

115. NWA, *supra* note 100, Ch.3, s.2 (requiring that the Minister ensure that water is “allocated equitably and used beneficially in the public interest, while promoting environmental values”).

116. Basic needs as regards water supply are defined in the regulations relating to compulsory national standards and measures to conserve water, April 20, 2001, as 25 litres per person per day, available within 200 m of each home for at least 359 days in each year. See also WHITE PAPER ON NATIONAL WATER POLICY, *supra* note 2, at 15, and ss.2.6.5–2.6.8 of the Reconstruction and Development Programme for short, medium, and long-term government objectives, available at <http://www.polity.org.za/govdocs/rdp/rdp.html> (last visited Aug. 26, 2003).

117. NWA, *supra* note 100, Ch. 3, pt. 3, s.18.

water for domestic uses is that it relies on lawful access to such water.¹¹⁸ For the rights conveyed under the act to be of practical use and for the act to fulfill its objectives of enabling equitable access to water for all, at least one of two things must take place:

- either land owned by whites must have been transferred to black ownership; and/or
- the number of households supplied by water services providers under the WSA must have increased.

With regard to the first of these, government figures state that around one million hectares of land have been redistributed under the Land Reform Programme.¹¹⁹ Water supplies have been provided to “over 9 million people in 7 years,”¹²⁰ although exact figures will presumably remain elusive until the publication of the results of the 2001 census.

Pursuant to the integrated water management strategy intended by the government, the licensing regime sets out the considerations to be taken into account when issuing licences or general authorisations. These considerations include the existing uses made of,¹²¹ and the resource quality objectives attached to,¹²² a particular water resource. In this way, the problems with environmental protection routinely encountered in riparian rights and prior appropriation regimes are circumvented. The use to which such water resource is put is also of importance—for example, if the resource is used for abstraction of drinking water, the resource quality objectives will be higher than that of a body of water used only for irrigation.¹²³ Socio-economic impacts (both of the proposed use and rejection of the proposed use) must be taken into account, along with the impact on international obligations owed by South Africa to its neighbors.¹²⁴ Underlying this, the reserve must be respected at all times as required by s.18.

Licences issued under the Act are automatically time-limited: perpetual rights of use are prohibited. The maximum duration of licence is 40 years,¹²⁵ and all licences must be reviewed not less than every five

118. *Id.* Sch.1, s.1(a) (providing that it is permissible to “take water for reasonable domestic use in that person’s household, directly from any water resource to which that person has lawful access”) (emphasis added).

119. Thabo Mbeki, Address at the State of the Nation Address to the Joint Sitting of the Houses of Parliament, Cape Town (Feb. 2002), available at <http://www.anc.org.za/ancdocs/history/mbeki/2002/tm0208.html> (last visited Aug. 27, 2003).

120. Kasrils, *supra* note 6.

121. NWA, *supra* note 100, Ch. 4, pt. 2, s.27(1)(a).

122. *Id.* s.27(1)(g).

123. See discussion of water quality, *infra*.

124. NWA, *supra* note 100, Ch. 4, pt. 2, s.27(1)(d) and (j), respectively.

125. *Id.* s.28(1)(e).

years.¹²⁶ Conditions may be attached,¹²⁷ and the uses permitted must be specified.¹²⁸ The Act explicitly provides that the mere issuing of a licence constitutes no guarantee as regards the probability, availability, and quality of the water.¹²⁹

By instituting a system based on the reserve and the comprehensive licensing system detailed above, the South African regime avoids the problems of the prior appropriation doctrine, which Tarlock calls "the ultimate river and watershed engine of destruction because it allows the last drop of a stream to be diverted and depleted to satisfy prior rights and allows trans-watershed diversions."¹³⁰ The licensing and review system enables changes to be made that reflect changes in water availability not envisaged at the time the permit was issued, something which is impossible under either prior appropriation or riparian rights regimes. However, the ability of those with existing lawful uses to continue to enjoy these rights introduces the danger of the conservatism of prior appropriation systems. Those who enjoyed the rights in the past, assuming they are judged to be lawful uses, may continue to use them. Without wholesale land reform and expensive water supply extensions, the question of access to water limits the benefits available to the disadvantaged.

IV.B.4 Environmental Protection

The protection of the environment has been tackled in two different ways: firstly, the ecological elements of water resources have been protected by the concept of the environmental Reserve. Secondly, the Bill of Rights introduced the human right to a healthy environment. Paragraph 6.3 of the 1997 White Paper on Water Policy recognises that the sustainable use of water resources is dependent upon the maintenance of the ecosystems in those resources, and that the reforms that will give all South Africans full access to water and sanitation services are only of use if they are available in the long term. The environment is seen as the "resource base on which all development depends"¹³¹ rather than a user of that resource. The government, as part

126. *Id.* s.28(1)(f). Variations may be made, but such variations must be made equitably insofar as the other uses for that water resource are concerned under Ch.4, pt.9, s.49(3). The period of the licence, however, cannot be changed. *Id.* Ch. 4, pt. 9, s.49(2)).

127. *Id.* Ch. 4, pt. 2, s.29.

128. NWA, *supra* note 100, Ch. 4, pt. 2, s.28(1)(a).

129. *Id.* s.31(a)-(c).

130. A. Dan Tarlock, *Reconnecting Property Rights to Watersheds*, 25 WM. & MARY ENVTL. L. & POL'Y REV. 69, 89 (2000).

131. ABRAMS, *supra* note 15, at 28.

of its responsibilities as public trustee, must ensure that resources are utilised sustainably.¹³²

The reserve includes components for both the basic needs of people and the environment. It is not entirely clear whether or not greater priority attaches to either one of these.¹³³ A clue to the ranking of the environmental reserve against the human needs given in the 1997 White Paper, which states that "[w]here the needs of the Environmental Reserve cannot be met because of existing developments, provision must be made for active intervention to protect the water resources."¹³⁴

This is implicitly recognised in the compulsory licence procedures contained in ss.43-48 of the NWA, which allow the minister to require that licences be held for all water uses on a particular "water-stressed" resource with allocation schedules being issued to control the water use. It is unclear how far this obligation extends—given that the permissible Sch.1 uses are subject to the provisions of the rest of the Act.¹³⁵ It may be that even those uses available by right must be licensed, but specific provisions on this are absent. However, it may be that the environment in fact enjoys greater protection than the people of South Africa, because the ecological reserve is not linked to access. The basic needs reserve, as noted above, is useful only as far as the people have lawful access to the water resources.

Unless a water work is a temporary or emergency one, the minister must provide an environmental impact assessment for each new work.¹³⁶ Public consultation must take place, and a summary of the environmental impact assessment must be provided for this purpose.¹³⁷ The contents of such an assessment are governed by s. 26 of the Environmental Conservation Act¹³⁸ and include details of the social and economic impact of the proposed works, which is not something that would normally be expected in an environmental impact assessment. The degree to which the environment is protected by this must be debatable—the assessment is prepared by the entity that wants the works to be built and is assessable by the public with no provisions prescribing how the views of the public will be shown to be incorporated

132. NWA, *supra* note 100, Ch.3, pt.3.

133. Throughout the NWA, the reserve is referred to as a whole, incorporating both the basic needs of people and the basic needs of the environment. Presumably, if one were regarded as more important than the other, it would have been simpler to designate a separate reserve for each.

134. WHITE PAPER ON WATER POLICY, *supra* note 2, Ch. 5, s.5.2.2.

135. NWA, *supra* note 100, Ch. 1, s.1.

136. *Id.* Ch.11, s.110.

137. *Id.* s.110(1)(a). On the public consultation provisions of the reforms, see *infra* section V of this article.

138. Environment Conservation Act, pt. VI, 826 (1989).

into the final plan. The inclusion of social and economic impacts implies that development is likely to have the upper hand over the environment with regard to the construction of new works as no independent third party with knowledge of the intricacies and complexities of, for example, dam building is given the opportunity to publicly raise questions. The inference that may be made from this is that the public consultation requirements and environmental impact assessment consist of more public relations than substantive environmental protection. However, the protection afforded by the public right to the environment will make the government answerable for failures to uphold it, and it is hoped that this will encourage proper use of the Environmental Impact Assessment process.

IV.B.5 Water quality

Pollution is controlled through the licensing procedure: disposing of material that causes or is likely to cause pollution is a water use under the terms of Ch.4, pt.1, s.21(f), and, as such, is a licensable activity. The levels of quality to be maintained in water resources depend on the use to which the water will be put—this places the minister under a duty to classify each water resource and to set so-called Resource Quality Objectives (RQOs) with respect to each class.¹³⁹ The RQOs are defined in broad terms and relate to

- (a) the quantity, pattern, timing, water level and assurance of instream flow;
- (b) the water quality, including the physical, chemical and biological characteristics of the water;
- (c) the character and condition of the instream and riparian habitat; and
- (d) the characteristics, condition and distribution of the aquatic biota¹⁴⁰

139. NWA, *supra* note 100, Ch.3, pt.1. The National Water Resources Strategy proposes a system comprising three classes—Natural, Good, and Fair. An additional sub-category of “poor” will be specially managed within the “fair” class. A separate class of “severely modified” shall be applied to waters that for physical or financial reasons are unable to support a natural ecosystem—the ecological reserve will not apply to such waters. See Department of Water Affairs and Forestry, Proposed First Edition of the National Water Resources Strategy, Ch.3, pt.1, s.3.1.2.1 (Aug. 2002) [hereinafter NWRS], for further details as to the suggested criteria for these classes. Available from the DWAF website, *supra* note 22.

140. NWA, *supra* note 100, Ch. 1, s.1 (xix).

Pollution must therefore be linked to the RQOs of the receiving waters, and is defined as

the direct or indirect alteration of the physical, chemical or biological properties of a water resource so as to make it—

(a) less fit for any beneficial purpose for which it may reasonably be expected to be used; or

(b) harmful or potentially harmful—

(aa) to the welfare, health or safety of human beings;

(bb) to any aquatic or non-aquatic organisms;

(cc) to the resource quality; or

(dd) to property.¹⁴¹

This definition is sufficiently broad to include diffuse pollution caused by agricultural activities and should be viewed as a significant step forward from the previous regime, which viewed actual damage to property as the dominant factor in determining whether or not there had been general pollution.¹⁴² Water quality objectives must be set at a national level in the National Water Resource Strategy,¹⁴³ but the RQOs proper will be detailed at catchment level,¹⁴⁴ on the basis of the RQOs set by the minister under s.13. The first draft of the recently published National Water Resource Strategy does not provide final details of either the RQOs or the reserve (although estimates for the relevant reserve figures are given for each Water Management Area in Appendix D of the NWRS), the stated intention being to determine these at a later date.¹⁴⁵

Further to the definition of pollution, those who act in such a way that a water resource is polluted or likely to be polluted are guilty of an offence,¹⁴⁶ punishable by possible imprisonment for a period of up to ten years and a fine.¹⁴⁷ Additionally, if any harm is caused to a watercourse or another individual, the offender may be liable to pay damages or to pay for remedial work to be carried out.¹⁴⁸ The same punishment is applicable to those who merely act in a way that is detrimental or likely to affect a watercourse.¹⁴⁹ This gives teeth to the Act and reinforces the stated aim of implementing the "Polluter pays" principle. Pollution is permissible only if a relevant licence has been

141. *Id.* Ch. 1, s.1(xv).

142. *See* Water Act 54 of 1956, *supra* note 49, s.23(1)(a).

143. NWA, *supra* note 100, Ch. 2, pt. 1, s.6(i).

144. *Id.* Ch. 2, pt. 1, s.9.

145. *See* NWRS, *supra* note 139, Ch. 3, pt. 1, s.3.1.2.2.

146. NWA, *supra* note 100, Ch. 16, s.151(1)(i).

147. *Id.* s.151(2).

148. *Id.* s.153.

149. *Id.* s.151(1)(j).

issued for that purpose. However, it is also incumbent upon those engaging in such acts to take all reasonable measures to prevent pollution.

Enforcement takes place at the catchment level, with Catchment Management Agencies having the power to order the cessation of the polluting activity and to recover their costs in the event that the offender fails to perform as required.¹⁵⁰ Significantly, the owner of the land on which the pollution took place is jointly and severally liable to the CMA with the actual offender.¹⁵¹ This puts the onus on the landowner to ensure that no such pollution takes place without a requisite licence. The CMA network is not yet in operation, although the Water Management Areas within which these will be established have been delineated.¹⁵²

At time of writing, no official statistics are available regarding the number of prosecutions under the Act, although the Department of Water Affairs and Forestry (DWAF) has indicated that only one such prosecution has been successful, since the advent of the NWA, for unlawful discharge of waste.¹⁵³ The effect of this is that it is not possible, on the basis of the available information, to ascertain how successful the efforts of the DWAF have been in preventing pollution or enforcing current standards.

With regard to the quality of the water provided by the Water Service Providers, standards have been set in the Regulations Relating to Compulsory National Standards and Measures to Conserve Water.¹⁵⁴ Two sets of reference standards are provided: those contained in the SABS 241 Specifications for Drinking Water, published by the South African Board of Standards (SABS), and those set out in the South African Water Quality Guidelines published by the DWAF.¹⁵⁵ Non-compliance with these standards attracts no punishment. Information from Umgeni Water indicates that standards are normally observed, even for rural supplies,¹⁵⁶ but accurate information regarding the level of guidelines breaches is not available.

150. NWA, *supra* note 100, Ch. 3, pt. 4, s.19.

151. *Id.* s.19(5).

152. See GN R1160 of October 1, 1999: Establishment of the water management areas and their boundaries as a component of the national water resource strategy in terms of section 5(1) of the NWA, n.20491, available at <http://www.dwaf.gov.za/Documents/Notices/Water Management areas engl .doc>.

153. E-mail from Louis Pautz, Department of Water Affairs and Forestry, to author (Aug.16, 2002) (on file with author).

154. See GN R/2001, available at www.dwaf.gov.za/Documents/Notices/WaterServices Act/SEC9DREGApril202001.doc.

155. See *id.* Reg. 5(3). The DWAF guidelines are available from its website, *supra* note 22.

156. E-mail from Dean Simpson, Senior Scientist, Water Quality Planning, Water Quality Department, Scientific Services, Umgeni Water, to author (July 19, 2002) (on file with author).

IV.B.6 *International waters*

Under the Protocol on Shared Watercourse Systems in the Southern African Development Community (SADC) Region,¹⁵⁷ to which South Africa is a signatory, South Africa is bound to institute a licensing system for non-domestic uses and pollution discharges¹⁵⁸ and generally to “prevent pollution or environmental degradation.”¹⁵⁹ It is obliged to utilise any shared watercourses equitably,¹⁶⁰ taking into account

- (a) geographical, hydrographical, hydrological, climatical and other factors of a natural character;
- (b) the social and economic needs of the member States concerned;
- (c) the effects of the use of a shared watercourse system in one watercourse state on another watercourse state;
- (d) existing and potential uses of the shared watercourse system;
- (e) guidelines and agreed standards to be adopted.¹⁶¹

International obligations must be taken account of at all levels of decision making in the NWA. It is explicitly stated to be one of the purposes of the Act¹⁶² and must be included in both the National Water Resource Strategy and any relevant Catchment Management Strategies.¹⁶³

157. Protocol on Shared Watercourse Systems in the Southern African Development Community (SADC), August 28, 1995, South Africa, entered into force September 29, 1998 [hereinafter SADC Protocol]. It should be noted that this will be superseded by the Revised Protocol on Shared Watercourse Systems in the Southern African Development Community, August 7, 2000, which is not yet in force. Additionally, on October 26, 1998, South Africa ratified the UN Convention on the Law of the Non-Navigational Uses of International Watercourses, adopted May 21, 1997, 36 ILM 700 (1997) (not yet in force).

158. SADC Protocol, *supra* note 157, art.2(8):

Member States shall require any person intending to use the waters of a shared watercourse system within their respective territories for purposes other than domestic use or who intends to discharge all types of wastes into such waters to first obtain a permit from the relevant authority within the State concerned. The permit shall be granted only after such State has determined that the intended discharge will not have a detrimental effect on the regime of the watercourse system.

159. *Id.* art.2(12).

160. *Id.* art. 2(6). See also the reiteration of this principle on an Africa-wide basis in preamble, section 6(a) of the African Ministerial Conference on Water (AMCOW) Abuja Ministerial Declaration on Water—A Key to Sustainable Development, Abuja (Apr. 29-30, 2002).

161. SADC Protocol, *supra* note 157, art. 2(7).

162. NWA, *supra* note 100, Ch. 2, pt. 2, s.9(f).

163. *Id.* Ch. 2, pt. 1, s.6(1)(b)(ii) and Ch. 2, pt. 2, s.9(a), respectively.

The licensing (and review thereof) of water uses, whether compulsory or not, must also consider international obligations.¹⁶⁴ Under the NWA, the minister has the power to set up bodies to implement South Africa's international obligations, and such institutions must act in accordance with the National Water Resource Strategy.

The SADC protocol is not specifically referred to in the NWA, but its spirit is apparent in the provisions noted above. However, no implementing body has been established in South Africa, and a question hovers over the licensing system. Art.2(8) of the protocol demands that a permit to pollute waters be granted only in the event that such discharge will "not have a detrimental effect on the regime of the watercourse system."¹⁶⁵ This will only be of use if the licensing regimes of the member states are mutually acceptable—success will not be achieved if the standards in one country are lower than that of another's. The other country may indeed be striking a balance between "resource development for a higher standard of living for their peoples and conservation and enhancement of the environment to promote sustainable development,"¹⁶⁶ but this balance may vary in different areas.

It is hoped that the information exchange required under art.2(5) and (9) will be sufficient to avoid problems. It may be that one member uses the downstream waters of a shared watercourse for the purposes of drinking water, but the upstream use in another state is industrial. The relevant RQOs, or equivalent, in both countries must be comparable in order to avoid pollution that might be acceptable in one but not in the other. In South Africa, the Catchment Management Strategies must take account of international obligations, and the RQOs for relevant water resources should consequently consider uses on the other side of the border, but this may not be reciprocated in the other nation.

The fact that international obligations are consistently mentioned as considerations to be taken into account alongside the reserve implies that both are allocated the same priority. This makes it difficult to determine which would be sacrificed first in the event of a conflict. The Act contains no indication as to how resources would be split in time of severe shortages. Neither the reserve nor international obligations (which would apply to the Orange river system and affect Namibia) are mentioned in the Vaal River priority classifications, which prioritise only domestic, industrial, and strategic uses along with irrigation.¹⁶⁷ This does

164. *Id.* Ch. 4, pt. 2, s.27(1)(j); Ch. 4, pt. 8, s.45(2) and s.49(2)(c).

165. SADC Protocol, *supra* note 157, art. 2(8).

166. *Id.* art. 2(3).

167. E-mail from J.I. (Seef) Rademeyer, Chief Engineer, Water Resources Planning (Central), Department of Water Affairs and Forestry to author (July 30, 2002) (on file with author), referring to the Department of Water Affairs and Forestry Report No.: PC000/00/22201 Vaal River: Continuous Investigations (Phase 2)—Annual Operating

not augur well for either, despite the fact that the Vaal priorities cannot be taken to be indicative of all such plans.

IV.C Scotland

IV.C.1 Background to the Reforms

On September 11, 1997, a referendum was held on the issue of whether or not Scotland should have its own parliament with powers devolved from Westminster. Following the result in favor of the proposition, the White Paper, Scotland's Parliament, was transformed by the Scotland Act of 1998.¹⁶⁸ The Scottish Parliament had its maiden session on May 12, 1999, and from July first of that year Scotland took over the powers given to it under the Scotland Act.¹⁶⁹ A number of powers were reserved to the United Kingdom, among them defence, foreign affairs, social security policy, and employment policy.¹⁷⁰ The return of the parliament to Scotland was viewed as an opportunity to redemocratise the country, and a chance to reflect the will and the priorities of the Scottish people. Since the advent of the new parliament, Scotland has underlined its separate personality with legislation and approaches to government that differ greatly from those in Westminster.¹⁷¹

In December 2000, new legislation from the European Community on water quality and management came into force—the so-called European Union Water Framework Directive (WFD).¹⁷² The aim of the WFD is to “establish a framework for the protection of inland surface waters, transitional waters, coastal water and groundwater”¹⁷³ with the objectives of improving the aquatic environment, preventing and reducing emissions, and promoting sustainable water use.¹⁷⁴ In order to satisfy these goals, the WFD sets up an administrative framework based

Analysis 2001/2002. The only strategic use or user detailed with respect to the Vaal River is Eskom, the electricity supplier. *Id.* It should be noted that the author has had access only to the relevant page of this Analysis and cannot therefore comment on the rest of the document.

168. Cm. 3658 (1997).

169. See the Scottish Parliament website, at <http://www.scottish.parliament.uk/>, for further information.

170. Nuclear energy and oil and gas were also reserved, subject to a number of exceptions. See Scotland Act, Sch. 5, pt. I, 1.

171. For example, the introduction of Proportional Representation, the informality of the debating chamber, free care for the elderly, and the Freedom of Information Act.

172. Directive 2000/60/EC of the European Parliament and of the Council of October 23, 2000, establishing a framework for Community action in the field of water, O.J. L.327, 22/12/2000 P.0001 [hereinafter WFD].

173. *Id.* art. 1.

174. *Id.* Preamble, ss.16-27, and art. 1.

on catchments and establishes quality standards to be reached through a combination of emission limit values and pollution prevention. It takes a more holistic approach than previous legislation, dealing with all factors that might affect watercourses, and allows member states a degree of leeway in satisfying the quality standards it requires. Catchment management is practised to some degree in a number of countries in Europe¹⁷⁵ but, until now, has been absent from Scotland. The EC regards public participation and co-operative action as crucial to the success of the WFD,¹⁷⁶ and both the administrative regime created and consultation provisions incorporated reflect this.

Scotland began the process of transposing the WFD into Scots law in June 2001, publishing two consultation papers in seven months¹⁷⁷ and finally publishing the Water Environment and Water Services (Scotland) Bill (Water Bill) on June 18, 2002.¹⁷⁸ The policy aims of the Water Bill are as follows:

- to establish a statutory system for water management planning based on natural river basins and comprehensive environmental and economic assessment and monitoring (River Basin Management Planning); and
- to provide the framework for comprehensive controls over water abstraction, impoundment, engineering works affecting water courses and diffuse and point sources of

175. For example, France and England. See F. NUNES CORREIA, INSTITUTIONS FOR WATER RESOURCES MANAGEMENT IN EUROPE 1 (1998), for further information on the institutional structure adopted in these and a number of other European nations.

176. WFD, *supra* note 172, preamble, s.14.

177. The first consultation paper was published in SCOTTISH EXECUTIVE, RIVERS, LOCHS, COASTS: THE FUTURE FOR SCOTLAND'S WATERS (2001), available at <http://www.scotland.gov.uk/consultations/environment/ffsw-00.asp> [hereinafter RIVERS, LOCHS, COASTS]. The second appeared in SCOTTISH EXECUTIVE ENVIRONMENTAL GROUP, THE FUTURE FOR SCOTLAND'S WATER—PROPOSALS FOR LEGISLATION (Paper 2002/4, Feb. 2002), available at <http://www.scotland.gov.uk/consultations/environment/ffsw2-00.asp> [PROPOSALS FOR LEGISLATION].

178. Since this article was written, the Water Environment and Water Services (Scotland) Bill has completed its legislative progress. The Water Environment and Water Services (Scotland) Act 2003 asp 3 received Royal Assent on March 5, 2003. It differs from the original bill in certain key respects: for example, as regards public participation, publicity measures are more clearly set out (particularly ss.11(5), 11(10), 12, and 27), and the preparation of sub-basin plans is now mandatory (s15(1)). In addition, there is greater focus on the promotion of sustainable flood management, more explicit protection of wetlands and a limited duty on ministers, SEPA, and responsible authorities to contribute to sustainable development. The importance of inter-departmental and inter-entity cooperation has been recognised to some extent in s.2(4)(c) with an express duty to adopt an integrated approach being imposed. Water Environment and Water Services (Scotland) Act 2003, asp 3, available at <http://www.scotland-legislation.hmso.gov.uk/legislation/scotland/acts2003/20030003.htm> (prepared Mar. 17, 2003).

pollution to water in order to achieve the best possible ecological status for all surface waters and to protect groundwaters from pollution and over abstraction.¹⁷⁹

The intention is to supplement the essentially enabling character of the Water Bill with relevant secondary legislation,¹⁸⁰ although no specific timetable has been published for such regulation. However, the Executive has apparently set a deadline of 2005.¹⁸¹ The WFD must be in force in member states by December 22, 2003,¹⁸² but the Scottish Executive aims to bring this forward by one year. Consequently, Scotland is further ahead in its implementation of the bill than any other country in Europe.¹⁸³ Its success or failure will be watched closely and may potentially have an impact on the transposition in other member states.

In addition to the European Union (EU) reforms regarding water quality and catchment management, Scotland has recently restructured the provision of water supply and sanitation services. The Water Industry (Scotland) Act 2002 created Scottish Water¹⁸⁴ in order to "enable the water industry in Scotland to keep charges at an acceptable level for customers,"¹⁸⁵ the view being that one body would be better able to make savings on the required capital spending than three smaller entities. The ultimate aim, however, is to prepare the Scottish water industry for the inevitable opening up of the Scottish market to competitors, as required under the Competition Act of 1998.¹⁸⁶

179. Water Environment and Water Services (Scotland) Bill, Policy Memorandum SP Bill 57-PM, s.7. The Water Environment and Water Services Bill (2002), available at the website of the Scottish Parliament, in its Bills section, at <http://www.scottish.parliament.uk/bills/index.htm>.

180. See, e.g., PROPOSALS FOR LEGISLATION, *supra* note 177, s.4.3 (regarding pollution).

181. *Scotland first with Bill to transpose Water Framework Directive*, ENDS REPORTS, 21, July 2002.

182. WFD, *supra* note 172, art. 24, ¶ 1.

183. Currently, virtually all other member states are working on the basis that the directive will be fully transposed into national law by the end of next year, although Austria expects to be finished earlier due to national elections to be held mid-year. Information derived from Spanish Presidency, *Current State of the Water Framework Directive Implementation Process*, Report prepared for the Informal Meeting of EU Water Directors, Valencia, June 10-12, 2002 (on file with author).

184. See *supra* note 90.

185. See Scottish Water website, at <http://www.esw.co.uk/>, introduction by Prof. Alan Alexander.

186. *Environmental Concerns over Plan for Single Scottish Water Authority*, ENDS REPORT, Mar. 2001, Issue No. 314, at 37-38; see also *Proposals Prepare Scottish Water Industry for Competition*, ENDS REPORT, Apr. 2001, Issue No. 315, at 51-52.

IV.C.2 Ownership and Allocation

The Water Bill makes no attempt to change the laws regarding the ultimate ownership of water in Scotland. Ownership of flowing water remains in common. With regard to allocation, however, the position is slightly different. Currently, a consent is required to discharge effluent into waters,¹⁸⁷ but no such permissions are needed for abstractions, other than in limited circumstances, or for pollution from diffuse sources.¹⁸⁸ With regard to abstraction, the Water Bill does not establish a controlling regime but does make provision for allowing the ministers to regulate the abstraction of waters from surface and ground waters.¹⁸⁹ Secondary legislation is scheduled to follow. The use of abstraction controls is mandatory under art.11(3)(e) of the WFD, and Scotland is therefore obliged to introduce such a regime within the period set out in the WFD.

Despite the lack of detail in the Water Bill, the wording of the second consultation paper gives some indications as to the intentions of the Scottish Executive.¹⁹⁰ A number of regulatory tools are to be utilised by the Scottish Executive in controlling activities that pose an environmental risk, including water use licences, general binding rules, and registration of uses.¹⁹¹ The WFD requires only that "controls" be put in place for a number of activities that will prevent the fulfillment of the environmental objectives of the directive and leave the decision as to the nature of the controls up to the member state.¹⁹² Article 11 of the WFD allows member states to exempt abstractions that "have no significant impact on water status"¹⁹³ from the abstractions control regime, but it is not clear from the Water Bill as it stands whether or not the Executive intends to exempt household consumption, for example. The intention of the Executive appears to be to use water use licences in place of the current consents issued under the Control of Pollution Act of 1974, with

187. *Supra* notes 83 and 84 and accompanying text.

188. *See supra* notes 87 and 88.

189. Water Environment and Water Services(Scotland) Bill, *supra* note 179, s.20(3)(b). In s.20(6), "abstraction" is defined as "the doing of anything whereby any water is removed by mechanical means from that body of water, whether temporarily or permanently, including anything whereby the water is so removed for the purpose of being transferred to another body of water." The domestic consumption of water that is mechanically pumped from a water source will therefore be included in the definition. *See also* PROPOSALS FOR LEGISLATION, *supra* note 177, ¶¶ 5.4-6.

190. *See* PROPOSALS FOR LEGISLATION, *supra* note 177.

191. *See id.* ¶ 3.9.

192. WFD, *supra* note 172, art. 11(3)(e).

193. *Id.*

standard conditions applied in relation to certain activities in order to reduce the administrative and bureaucratic burden.¹⁹⁴

The percentage of households in Scotland that receive their water supply and sanitation services from Scottish Water is overwhelming.¹⁹⁵ Licences or controls will exist in some form for other uses of water, and Scottish Water will itself require a licence from SEPA in order to abstract drinking water. The consequence of this is that, for all practical purposes, the use of water in Scotland is centrally controlled. The rights of riparians to receive water unaffected in flow, quality, and quantity, and to use it reasonably, will remain but most likely only insofar as that use does not cause significant impact on the resource. The lack of recent cases regarding riparian common law rights is perhaps indicative of the importance attached to these, with statutory rights having effectively superseded riparian rights.

The South African and Scottish experiences are very different with respect to ownership, as ownership questions (especially allocation) were the driving factors behind the reforms in South Africa. Scotland, with its superfluity of water and extensive supply network, is naturally much less concerned with such matters. In situations such as South Africa's, the question of ownership had to be settled before the practical issues of ensuring supply to the entire population were addressed. Almost all of the population of Scotland is concerned with water ownership only insofar as it affects their supplier of water. In South Africa, the opposite is true: the rights of riparian landowners to keep people off their land and deny them access to water, allied with the fact that there is so much less water available and a more limited water supply network, means that ownership and allocation assume a greater magnitude of direct importance to individuals.

IV.C.3 Environmental Protection and Water Quality:

The WFD sets out environmental objectives to be met by all member states. While broadly leaving the method to the discretion of members, it requires that particular administrative frameworks be established and sets out a number of obligatory measures that must be taken pursuant to those objectives. The structure and requirements are such that environment and water quality are interconnected and are both integral parts of the goal of sustainable water use. As part of the two-pronged effort to achieve its aims,¹⁹⁶ the WFD sets out environmental

194. See PROPOSALS FOR LEGISLATION, *supra* note 177, ¶¶ 3.11–3.19.

195. *Private Water Supply Regulations*, *supra* note 91.

196. Those aims being "the elimination of priority hazardous substances," as defined by the EC under art.16, and the reduction in concentrations of naturally occurring substances

objectives that must be met for all surface water, ground waters, and what are termed "artificial and heavily modified" bodies of water.¹⁹⁷ For surface and ground waters,¹⁹⁸ the environmental objective is to be of "good" quality. Surface waters must be of good ecological status and good chemical status, and groundwater must be of good chemical and quantitative status.¹⁹⁹ With regard to the determination of good surface water chemical status, the WFD makes no break with past EC legislation—the definition requires that states adhere to the provisions of previous EC directives on pollution.²⁰⁰ Consequently, the quality of water with which the WFD is most concerned, and the one that will have the most impact on member states, is that of ecological quality, the technical requirements of which are detailed in Annex V.²⁰¹

As previously mentioned, the directive demands that its environmental objectives are met by way of a programme of measures implemented on a river basin basis.²⁰² The rationale behind the river basin framework is twofold—to ensure the application of integrated

to "near background values" in marine water resources. WFD, *supra* note 172, preamble, ¶ 27.

197. *Id.* art. 4(c)(3). With respect to groundwater, and in addition to preventing the pollution thereof, article 4 requires that member states "ensure a balance between abstraction and recharge of groundwater." *Id.* art. 4(b)(ii).

198. "Surface waters" include "inland waters, except groundwater; transitional waters and coastal waters, except in respect of chemical status for which it shall also include territorial waters," *Id.* art. 2(1). "Groundwater means all water which is below the surface of the ground in the saturation zone and in direct contact with the ground or subsoil," *Id.* art. 2(2). "Artificial" and "heavily modified" bodies of water are defined in art.2 as being those which have been created by human activity, or those that, "as a result of physical alterations by human activity," are "substantially changed in character," respectively. *Id.* art. 2(8-9).

199. Artificial and heavily modified waters must reach the status of good ecological potential and good surface water chemical status under art. 4(1)(a)(iii), *id.*

200. *Id.* arts. 2(24) and 16(7), and Annex IX. Examples of such past legislation include Council Directive 76/464/EEC of 4 May 1976 on pollution caused by certain dangerous substances discharged into the aquatic environment of the Community, *Official Journal L* 129, 18/05/1976 P. 0023-0029; Council Directive 91/271/EEC of May 21, 1991, concerning urban wastewater treatment *Official Journal L* 135, 30/05/1991 P. 0040-0052; Council Directive 91/676/EEC of December 12, 1991, concerning the protection of waters against pollution caused by nitrates from agricultural sources, *Official Journal L* 375, 31/12/1991 P. 0001-0008. EU legislation can generally be found at http://europa.eu.int/eur-lex/en/search/search_lif.html.

201. For details of how these provisions are being assessed in Scotland, see the consultation document published by SEPA, *The Future for Scotland's Water-Guiding principles on the Technical Requirements of the Water Framework Directive* (May 2002), available at http://www.sepa.org.uk/publications/waterframework/Future_of_Scotlands_Water.pdf. The environmental objectives are to be achieved through the use of Best Available Techniques, relevant emission limit values, or, in the case of diffuse impacts, Best Environmental Practices and those controls set down in relevant EC legislation (art. 10(2)).

202. WFD, *supra*, note 172, art. 3(4).

water resource management and to facilitate decision making at the local level.²⁰³

The WFD allows the administrative arrangements to be set up for each river basin, or group thereof, each such area to be a River Basin District (RBD). The Scottish Executive allows the minister to delineate the area covered by each RBD, but the Water Bill fails to set out the number proposed. Despite this, it is expected that the terms of the second consultation paper will be followed, and that one principal RBD will be established, along with other separate ones for waters on the English border.²⁰⁴

A programme of measures must be prepared to implement the environmental objectives of each specific RBD, and this must be incorporated into the ultimate RBD management document, the River Basin Management Plan (RBMP). The Water Bill does not go so far as to set out the intended programme of measures, but merely defines the contents of such a plan. The RBMP cannot be finalised until an assessment of the characteristics of the waters involved has been done, along with reviews of the "impact of human activity" and the economic status of the uses of those waters.²⁰⁵ SEPA is obliged under the Water Bill to carry out this characterisation exercise,²⁰⁶ along with setting environmental objectives for each of the bodies of water in the RBD.²⁰⁷ Separate programmes of measures are then drawn up for each and contained in the RBMP as a whole. In part then, the RBMP will be a collation of the individual programmes. In order to facilitate the fulfilment of the objectives, the licensing and control regime administered by SEPA, as lead regulator, will make up part of the programme of measures contained in the RBMP.

In addition to prescribing an abstraction control regime, the WFD further requires that controls are put in place to prevent pollution by diffuse sources, for example, from the use of agricultural pesticides, from forestry run-off, or from urban drainage.²⁰⁸ Currently, SEPA

203. *Id.* preamble, ¶ 13: "Decisions should be taken as close as possible to the locations where water is affected or used."

204. PROPOSALS FOR LEGISLATION, *supra* note 177, ¶ 1.4.

205. Water Environment and Water Services (Scotland) Bill, *supra* note 179, s.5(2). The characterisation report must be completed by December 22, 2004. Whether or not the Scottish Executive intends to bring this deadline forward by one year to match the transposition is uncertain.

206. *Id.* s.5.

207. *Id.* s.9(1).

208. According to SEPA, 46 percent of river pollution is due to diffuse pollution. See *The Diffuse Pollution Challenge*, ENDS REPORT, Nov. 2000, Issue No. 310.

exercises powers over diffuse pollution in NVZs only.²⁰⁹ The proposed controls have not been specified, but it appears that the licensing system proposed in the initial consultation document will not be implemented—it is mentioned in neither the second consultation nor the Water Bill.²¹⁰ The approach now favored by the Executive is to build on the codes of good practice currently in existence, and in most cases to give these statutory authority. It appears that this will not affect forestry, where it is deemed that the current codes of best practice work sufficiently well by themselves.²¹¹

The issue of international bodies of water is largely irrelevant to Scotland, as it has no transboundary rivers with a separate country. However, as the environmental regulation regimes in Scotland and England fall under the auspices of different entities, those rivers that have basins lying in both countries will be the subject of their own river basin districts.²¹² Special arrangements will be set up for these, but detailed provisions have been made in neither the Scottish proposal nor the English.

V. NATIONAL WATER LAW REFORMS: PROCEDURAL RULES

V.A Introduction

The success of the legal regime in any nation is largely dependent upon the existence of bodies capable of implementing its objectives.²¹³ Water law is no exception to this, and efforts have been made in both South Africa and Scotland to put in place an institutional system that is adequate for the demands of the relevant laws. The

209. However, see also The Control of Pollution (Silage, Slurry and Agricultural Fuel Oil) (Scotland) Regulations, S.S.I 2001/206, where SEPA can require the preparation of a Farm Waste Management Plan under section 8(3).

210. See RIVER, LOCHS AND COASTS, *supra* note 177, ch. 6, in general, and ¶ 6.9, in particular.

211. See PROPOSALS FOR LEGISLATION, *supra* note 177, ¶¶ 4.7–4.8: “we envisage that such rules...would be SEPA’s main regulatory tool in respect of diffuse pollution,” ¶ 4.7. On forestry, see *id.* ¶ 4.8. This approach is controversial—the WWF, for example, believes that such codes of practice must be given statutory foundations in order for them to be effective. See WWF in Scotland’s response to the Scottish Executive’s Consultation on Proposals for Legislation, preparing for the Water Environment and Water Services Bill to transpose the Water Framework Directive in Scotland (2000/60/EC) (Apr. 2002) (on file with author).

212. See PROPOSALS FOR LEGISLATION, *supra* note 177, ¶ 1.5.

213. See CAPONERA, *supra* note 1, at 169. Caponera goes as far as to state that “it is better not to have any law than a water law which...proves difficult to enforce.” *Id.* at 157. In addition, see generally the Global Water Partnership Toolbox for Integrated Water Resource Management, Governance, Tools, s.B1, *Creating an Organisational Framework*, available at <http://www.gwpforum.org> [hereinafter GWP Toolbox], for views on international practice and lessons learned, along with individual case studies.

frameworks developed in other nations differ substantially as regards the powers of the relevant entities. These differences result from a number of factors but may be linked to resource availability, wealth, and historical background.²¹⁴ Basic principles, however, are emerging. "Reforms should avoid confusing the roles of resources management (government responsibility) and service provision (public or privately operated utilities)"²¹⁵ and, by extension, to separate the bodies allocated those particular functions, in order that the problems suffered by England in the 1970s, for example, are avoided.²¹⁶ This separation of powers is followed by both South Africa and Scotland, although the duties of the various organisations within the overall structure differ widely.

V.B South Africa

V.B.1 Institutional Framework

Management of water resources occurs, essentially, within a two-tiered system, although a third tier does exist to a much more limited extent. At the top is the Minister for Water Affairs or, for practical purposes, the Department for Water Affairs and Forestry, which acts on the Minister's behalf as trustee of the nation's water resources. Below this lie the Catchment Management Agencies (CMAs). There will be total of 19 CMAs, one for each Water Management Area.²¹⁷ These bodies will be systematically created over the next eight to ten years,²¹⁸ although it appears that the first of these will be that of the Inkomati basin.²¹⁹

Currently, the DWAF exercises effective control of water management in South Africa. It issues licences for water use, maintains overall responsibility for the provision of water supply and sanitation services, and controls development. It also sets water standards, subject

214. See 1 W.L. ARRIËNS ET AL., TOWARDS EFFECTIVE WATER POLICY IN THE ASIAN AND PACIFIC REGION 53 (Proceedings of the Regional Consultation Workshop of the Asian Development Bank) (1996).

215. See GWP *Toolbox*, *supra* note 213, *Governance, Tools*, C7.2, Pollution and environmental charges.

216. See S. BELL & D. MCGILLIVRAY, ENVIRONMENTAL LAW 556-57 (5th ed. 2000) (further information regarding the results of the Water Act 1973 and the problems encountered when the regional water authorities were seen as both "poacher and gamekeeper").

217. See NWA, *supra* note 100, s.79 (detailing the legislative source of the WMAs).

218. See Minister Ronnie Kasrils, Address at meeting of Asian Ministers of Water, Bangkok (May 23, 2002), available at [http://www.dwaf.gov.za/Communications/Minister speeches/](http://www.dwaf.gov.za/Communications/Minister%20speeches/), at 11.

219. See <http://www.dwaf.gov.za/Documents/> for further details. This statement is based on the fact that provisional documents are in place on the DWAF website for the Inkomati basin alone.

to the use by the Water Boards of the SABS standards.²²⁰ As the CMAs do not currently exist, this situation is inevitable. Once the CMAs come into full operation, the intention is that these should take over the bulk of the operational responsibilities performed by the DWAF, leaving the latter to serve as a policymaking and standards authority.²²¹ In the period between the introduction of the NWA and the point when the full panoply of Catchment Management Strategies is in place, the staff of the DWAF is forced to interpret the terms of the NWA and is in the process of preparing so-called Internal Strategic Perspectives (ISPs) that will be used in place of Catchment Management Strategies.²²² The first draft of the NWRS reflects to some extent the interpretation of the NWA by staff at the DWAF, and the public consultation exercise on the NWRS is seen as a way of discovering whether or not their interpretation has been acceptable or not.²²³ It is not clear, however, how the views of the public on the ISPs will be made known.

The CMAs are designated as the responsible authority for water resource management with regard to any function that has been assigned to them by the Minister under s.73 of the National Water Act.²²⁴ The skeleton framework for the functions of the CMAs is set out in s.80, with additional information being added in the NWRS.²²⁵ The most important of these functions are the management of water resources in the relevant Water Management Area (WMA) and the preparation of a Catchment Management Strategy (CMS) to achieve this.²²⁶ The aim

220. See *supra* text accompanying note 155.

221. See NWRS, *supra* note 139, s.3.5.2.2 for a full discussion of the intended transfer of powers, available at <http://www.dwaf.gov.za/NWRS>. See also NWA, *supra* note 100, ch.6 (detailing the functions that may be delegated by the Minister).

222. Email from Johan Van Rooyen, Director of Water Resource Planning at the DWAF (July 29, 2002) (on file with author). The process of preparing the Internal Strategic Perspectives is expected to take until the end of 2003.

223. *Id.*

224. NWA, *supra* note 100, ch. 1.

225. NWRS, *supra* note 139, s.3.5.2.5, available at www.dwaf.gov.za/docs/NWRS.

226. NWA, *supra* note 100, s.80 (detailing the functions of the CMA):

- (a) to investigate and advise interested persons on the protection, use, development, conservation, management and control of the water resources in its water management area;
- (b) to develop a catchment management strategy;
- (c) to co-ordinate the related activities of water users and of the water management institutions within its water management area;
- (d) to promote the co-ordination of its implementation with the implementation of any applicable development plan established in terms of the Water Services Act, 1997 (Act No. 108 of 1997); and
- (e) to promote community participation in the protection, use, development, conservation, management and control of the water resources in its water management area.

behind the CMAs is to facilitate catchment-based management, bringing the management of river basins to the most appropriate local level in such a way as to ensure the most effective holistic management and local participation in relation to local rivers.²²⁷

Despite the fact that the WMAs have widely differing characteristics, national consistency will be achieved, as far as possible, by requiring that individual CMSs are not contrary to the provisions of the NWRS.²²⁸ Beyond simply managing the water resource, each CMA will, in time, be able to authorise and licence water uses within its area. Without this last power, proper catchment management would be more difficult to enforce as licensing would then be centrally controlled by the DWAF, which would be forced to issue permits complying with any one of 19 different strategies. Administratively, this system would be a great deal more time consuming and laborious than having a locally run regime.

The WMAs within which the CMAs will operate were designed with a number of considerations in mind, one of these being the "probability that the catchment management agency will become financially self-sufficient from water use charges."²²⁹ The NWA identifies three potential sources of funding for the CMAs: water charging, cash from Parliament, and the carrying out of other activities consistent with the duties of the CMA under the Act.²³⁰

Neither the Act nor the NWRS clarifies the importance of the funds obtained from water use charging. The CMAs must simultaneously ensure that the amounts paid by the users and polluters of water are equitable and do not encourage individuals to avoid obtaining a licence because the price is prohibitive, and ensure that they are not overly reliant on fines chargeable for non-compliance or use of water without a licence. Relying on the latter increases the likelihood of abuse, or the perception of it.²³¹

It is likely that Parliament will be reluctant to allocate unnecessary funds to CMAs. It seems probable that the larger WMAs, such as Lower Orange and Lower Vaal, which are sparsely populated, will depend to a large degree on government handouts if they are to be seen not to rely overtly on water use and non-compliance fees.²³² It is not

See also NWA, *supra* note 100, s.79(1) (CMAs are bodies corporate and are therefore capable of raising actions and having actions raised against them).

227. See, e.g., NWRS, *supra* note 139, s.3.5.1.

228. NWA, *supra* note 100, s.9(b).

229. NWRS, *supra* note 139, s.3.5.2.4.

230. NWA, *supra* note 100, s.84(2).

231. See GWP Toolbox, *supra* note 213, s.1.4.

232. It may be, however, that the fees receivable from mining interests bolster the takings of these CMAs.

possible to comment on the extent of the WMAs at this stage in terms of whether or not they meet the requirements of being at the most appropriate local level—at a rough estimate, the 19 WMAs will be comparable in size to the proposed principal River Basin District in Scotland,²³³ although the nature of the respective basins and administrative capabilities differ greatly.

As indicated above, there is a more limited third tier of water management, that of the Water Users Association.²³⁴ These serve primarily as replacements of the old Irrigation Boards, which represent groups of farmers who wish to manage their own water resources.²³⁵ They do not have the power to authorise water uses, and work on a very limited local basis within the requirements of the national strategy.²³⁶

The two-tiered structure of the water management institutions is reflected in the organisations that provide water supply and sanitation services, and again both combine public and private entities. Although the DWAF must ensure that water is supplied, responsibility for providing the service falls on the local authorities and municipalities under the WSA.²³⁷ However, historically, water providers in South Africa have themselves been provided with water from larger bulk suppliers, the 18 Water Boards. Given the fragile state of local democracy, the local authorities in many cases are unable to provide such services, and the

233. See *supra* note 14 and accompanying text of population figures.

234. See NWA, *supra* note 100, ch.8, and NWRS, *supra* note 139, s.3.5.2.6, for detailed provisions regarding the constitution and powers of the Water Users Associations.

235. See NWRS, *supra* note 139, s.3.5.2.6. See also DWAF Annual Report (2000–2001), available at [http://www.dwaf.gov.za/wfw/annual reports/default.asp](http://www.dwaf.gov.za/wfw/annual%20reports/default.asp) (in 2001, there were 264 such Irrigation Boards).

236. See NWA, *supra* note 100, s.7 (curiously, they are not obliged to pay heed to the catchment management strategy under s.11).

237. WSA, *supra* note 100, s.1, s.11(1) (defining Water Services Authorities and requiring them to provide water services). See also WSA, *supra* note 100, s.11(2) (defining the services):

the availability of resources;

- the need for an equitable allocation of resources to all consumers and potential consumers within the authority's area of jurisdiction;
- the need to regulate access to water services in an equitable way;
- the duty of consumers to pay reasonable charges, which must be in accordance with any prescribed norms and standards for tariffs for water services;

- the duty to conserve water resources;

and

- the nature, topography, zoning and situation of the land in question;

- the right of the relevant water services authority to limit or discontinue the provision of water services if there is a failure to comply with reasonable conditions set for the provision of such services.

Water Boards therefore face the customers directly.²³⁸ These water boards may receive government subsidies, but in general must rely on the recovery of costs for provision of water services.²³⁹ They are, however, subject to the authority of the DWAF insofar as the latter is obliged to ensure that the Water Boards act within the scope of the Water Services Act, and board members are appointed and may be removed by the Minister.²⁴⁰

The other body of significance established by the NWA is the Water Tribunal, which is the successor to the old Water Court, albeit with wider and more appropriate powers. Examination of its functions and role is made below in relation to dispute resolution and public participation.

V.B.2 Public Participation

The Constitution of South Africa explicitly demands that public administration and government be accountable and transparent and that public participation in decision-making processes is encouraged.²⁴¹ The ideal of public participation sits well with the other themes of South African water legislation in its thrust towards equity and efficiency, and the DWAF has adopted specific guidelines in order to achieve it.²⁴²

Aside from these guidelines, the principle has been partially embodied in the institutional structure. An emerging network of

238. For more information regarding the water boards, see DWAF Annual Report, *supra* note 235, at 9. As regards those water boards that face individual consumers directly, see, for example, Rand Water, the largest water board, which supplies the following groups of customers: "four metropolitan councils (divided up into 12 metropolitan sub-structures), 22 local councils, 1 provincial water supply authority, 2 service councils, 39 mines and approximately 1000 small direct customers." See Rand Water Annual Report, 200, at 33, available at <http://www.randwater.co.za/> (last visited Sept. 24, 2003).

239. See WSA, *supra* note 100, s.34.

240. *Id.* ss.31-35 (describing the powers and functions of the water boards and the appointment of board members).

241. See REPUBLIC OF SOUTH AFRICA CONST., art. 41(1)(c): "All spheres of government and all organs of state within each sphere must...provide effective, transparent, accountable and coherent government for the Republic as a whole"; see also art. 195(1)(e):

Public administration must be governed by the democratic values and principles enshrined in the Constitution, including the following principles:...People's needs must be responded to, and the public must be encouraged to participate in policy-making....

(f) Public administration must be accountable...

(g) Transparency must be fostered by providing the public with timely, accessible and accurate information.

242. Republic of South Africa, Department of Water Affairs and Forestry, *Generic Public Participation Guidelines* (Pretoria 2001), available at <http://www.dwaf.gov.za/Documents/Other/GPPG/guide.pdf> (last visited Sept. 24, 2003). (A more detailed breakdown of legislation relevant to both the DWAF and public participation is contained in chapter 4 of these guidelines).

advisory fora is being established, although these lack legislative or policy foundations.²⁴³ No figures are available regarding the number currently in existence, but correspondence with Umgeni Water indicates that 17 such bodies have been established in name at least in that board's operational area.²⁴⁴ However, of the 17 quoted, only 13 are named and of these only four are described as "active" and only one "very active." The others are "dormant" due to lack of either resources or a champion, or as a result of their isolation. It seems that these bodies have been established by the Water Board itself using powers under s. 31(4) of the WSA. The democracy of such entities must be in doubt, however, as the water board determines both their membership and functions. Ministers, too, may create advisory boards, but these are again subject to the Minister and lack any formalised structure or powers.²⁴⁵

Formal bodies representative of the public are not provided for, although it could be argued that the Water Users Associations constitute an example of public participation in practice insofar as these bodies make decisions at the most local level. The limited number of such bodies and their restrictions regarding the functions for which they can be established mean, however, that they cannot be regarded as society-wide measures for the benefit of the public as a whole. The NWRS states that it is the intention of the DWAF to create representative bodies in each WMA for the purposes of consultation exercises,²⁴⁶ and in doing so this will not only alleviate consultation fatigue but also enhance public participation. Again, the constituent parts of such bodies remain uncertain, but it is indicative of the DWAF's intention to facilitate public debate as much as possible.

In the main, the bulk of the public participation and consultative provisions lies in the many obligations put on organisations to consult with regard to decisions and strategies affecting the public.²⁴⁷ For example, the preparation of the National Water Resource Strategy and Catchment Management Strategies must provide for comments to be made by the public, and the Minister, or CMA as appropriate, is obliged to "consider all comments" before finalising the strategy.²⁴⁸ The current consultation on the NWRS is very clear, and comment fields are

243. See NWRS, *supra* note 139, s.3.5.2.8. But see NWRS, *supra* note 139 (describing the powers of Water Boards and the Minister to appoint advisory committees).

244. Email from Simon Mashigo, Water Quality Department of Umgeni Water (July 12, 2002) (on file with author) listing the Umgeni catchment management fora)

245. WSA, *supra* note 100, s.76.

246. NWRS, *supra* note 139, ¶ 4.3.1.

247. A full list of the relevant consultation responsibilities is reproduced in Table 1, found in the Appendix to this article. *Id.* n.4.

248. See NWA, *supra* note 100, s.5(5) for the national strategy and ss.8(5) and 10 with respect to catchment management strategies.

provided along with a summary and details of where the documents are available. What is not clear is where, other than the government Gazette, the document has been advertised. Public meetings will take place, with venues listed online (mainly public libraries and DWAF regional offices), but only those members of the public who are registered stakeholders may attend. The onus is therefore on the public to firstly register and then attend.

From this method of encouraging participation, it appears that the South African practice conforms to the requirements of the Rio Declaration:²⁴⁹ principle 10 states,

Environmental issues are best handled with the participation of all concerned citizens, at the relevant level. At the national level, each individual shall have appropriate access to information concerning the environment that is held by public authorities, including information on hazardous materials and activities in their communities, and the opportunity to participate in decision-making processes. States shall facilitate and encourage public awareness and participation by making information widely available. Effective access to judicial and administrative proceedings, including redress and remedy, shall be provided.²⁵⁰

Whether or not this is sufficient to match international best practice will be examined in the next section.

Certain standards have been set by the government with respect to dispute resolution in order to ensure that the government's broader aim of transparent and accountable administration is achieved. Firstly, the constitution guarantees access to justice.²⁵¹ Secondly, the NWA replaced the old Water Court, which was responsible for granting permits for the use of water for industrial purposes, with a new Water Tribunal,²⁵² staffed by experts in law, engineering, and water resource management. Environmental courts of this sort are useful in that they

249. THE UN CONFERENCE ON ENVIRONMENT AND DEVELOPMENT, RIO DECLARATION ON ENVIRONMENT AND DEVELOPMENT, UN Doc. A/CONF.151/26 (vol. I) (1992); 31 ILM. 874 (1992) (entered into force June 13, 1992) [hereinafter RIO DECLARATION].

250. See also NWA, *supra* note 100, s.42(b) (regarding the obligation on authorities to give written reasons for decisions regarding licensing) and WSA, *supra* note 100, ch. X (regarding the National Information System).

251. REPUBLIC OF SOUTH AFRICA CONST., s.34 of the Bill of Rights (providing that "[e]veryone has the right to have any dispute that can be resolved by the application of law decided in a fair public hearing before a court or, where appropriate, another independent and impartial tribunal or forum").

252. NWA, *supra* note 100, s.146, and sch.6, as amended by s.3 of the NATIONAL WATER AMENDMENT ACT, no.45 of 1999.

relieve pressure on often over-burdened court systems, and ensure that the complexities of science, policy, and law are assessed by those with relevant knowledge and expertise.²⁵³ The Water Tribunal is an independent, multi-disciplinary body²⁵⁴ that is mandated to hear appeals primarily against the decisions and actions of CMAs, although appeals against a number of specified decisions by responsible authorities and Water Management Institutions²⁵⁵ in general may be heard in certain situations.²⁵⁶ A right of appeal exists from the Water Tribunal to the High Court on points of law.²⁵⁷ However, references to the powers of the Water Tribunal are absent from the Act, and this seems directly contrary to the government's transparency objectives. It is not clear whether the tribunal may only refer the issue back to the relevant authority for reassessment or not, or if it can actually alter decisions and impose penalties.

Governance has recently become identified as one of the principal drivers in international efforts towards sustainable development.²⁵⁸ However, governance appears to mean different things to different people: the UNDP projects and the World Summit on Sustainable Development in Johannesburg interpret it as being principally related to corruption. The EU, on the other hand, looks on it as being more related to transparency, participation, levels of government, and the inter-relationship between those levels, a view that is shared by the South Africans.²⁵⁹

253. For further discussion of the Environmental Court in the South Australian context and related information, see section IV.

254. NWA, *supra* note 100, s.146(2) and (4), respectively.

255. Water Management Institutions include CMAs, WUAs, and international water management bodies, as per NWA, *id.* s.1(xxvi).

256. *Id.* s.148.

257. *Id.* s.149.

258. See, e.g., *Water—Key to Sustainable Development: Recommendations for Action*, International Conference on Freshwater, Bonn, Dec. 2001, action no.12, available at http://www.water-2001.de/outcome/BonnRecommendations/Bonn_Recommendations.pdf [hereinafter *Bonn Recommendations*]. See also *Plan of Implementation of the World Summit on Sustainable Development* in REPORT OF THE WORLD SUMMIT ON SUSTAINABLE DEVELOPMENT, U.N. Doc. A/CONF.199/20* (Sept. 23, 2002), especially ¶ 4 (stating, "Good governance within each country and at the international level is essential for sustainable development") This idea is repeated frequently throughout the plan, available at http://www.johannesburgsummit.org/html/documents/summit_docs/131302_wssd_report_reisued.pdf (last visited June 19, 2003). An indication of the importance attached to governance at the Johannesburg World Summit on Sustainable Development, by businesses at least, can be seen in *Johannesburg: World Summit or Trade Fair?*, ENDS Reports, July 23, 2002. See also the work of the UNDP in promoting democratic governance, at <http://www.undp.org/governance/index.htm>, and the work of the European Commission, at http://europa.eu.int/comm/environment/governance/index_en.htm, especially *European Governance: A White Paper*, COM (2001) 428 final.

259. See WHITE PAPER ON ENVIRONMENTAL MANAGEMENT POLICY, DEPARTMENT OF ENVIRONMENTAL AFFAIRS AND TOURISM, Pretoria, July 1997, especially ch. 5, available at

V.B.3 Coordination between Departments and Authorities

The nature of the water reforms in South Africa means that many different areas of government policy and practice are affected. The most obvious of these relate to agriculture, health, and the environment in general.²⁶⁰ As a result of this interaction, the reforms will only be of practical use if the terms of any water strategies are adhered to and upheld by other affected organisations. The NWA provides for this coordination by obliging certain entities to give effect to the national or catchment strategies "when exercising any power or performing any duty in terms of this Act."²⁶¹ These responsible entities include public bodies such as "organs of state"²⁶² and local authorities.²⁶³ The importance of coordination between government departments at all levels has been recognised at the highest level and has spawned two projects that rely on inter-departmental and inter-disciplinary cohesion: the Integrated Rural Development Programme and the Urban Renewal Strategy,²⁶⁴ both of which were initiated by the President's Office.

On a more procedural level, coordination between the various government departments is obligatory. The Constitution states that "[a]ll spheres of government and all organs of state within each sphere must...co-operate with one another in mutual trust and good faith by...informing one another of, and consulting one another on, matters of common interest."²⁶⁵ In the context of the NWA, relevant organs of state must be consulted with respect to the preparation of Catchment

<http://www.environment.gov.za/PolLeg/WhitePapers/EnvMgmt.htm#5%20GOVERNANCE> (last visited June 19, 2003). The implications of these varying discussions are beyond the scope of this work due to space considerations. For further information, please refer to the documents listed herein.

260. Controlled, respectively, by the Department of Agriculture (and the Department of Land Affairs regarding land ownership), the Department of Health, and the Department of Environmental Affairs and Tourism. For a full discussion of the other policies and legislation that must be taken into consideration by the DWAF, see NWRS, *supra* note 139, s.5.3.

261. NWA, *supra* note 100, s.7.

262. Defined in s.239 of the REPUBLIC OF SOUTH AFRICA CONST., as any department of state or administration in the national, provincial or local sphere of government; or any other functionary or institution—i. exercising a power or performing a function in terms of the Constitution or a provincial constitution; or ii. exercising a public power or performing a public function in terms of any legislation.

263. See NWA, *supra* note 100, ss.7 and 11 (regarding the duty to act in accordance with the terms of the Act in relation to the national and catchment strategies respectively). Organs of state are not required to pay heed to the CMS under s.11, but as the CMS cannot be inconsistent with the national strategy, this should not matter.

264. For further information, see NWRS, *supra* note 139, ¶¶ 5.5.1-2.

265. REPUBLIC OF SOUTH AFRICA CONST., art. 41(1)(h)(iii).

Management Strategies²⁶⁶ and may be consulted with regard to individual applications for water use licences.²⁶⁷ Significantly, it will be possible to integrate the respective licensing systems of the various departments through CMAs "in the interests of co-operative governance,"²⁶⁸ although the views of other departments on this development cannot presently be gauged.

Aside from the general duty to cooperate and the specific instances above, no mechanisms have been established to ensure continued and effective coordination with regard to issues such as strategic planning. Land use reforms are in progress, but even after the publication of the White Paper on Spatial Planning and Land Use Management in 2001,²⁶⁹ it is not possible to assess how coordination between water management strategies and the forward plans envisaged by the White Paper will take place. Water strategies are not mentioned in the White Paper (even though alignment with Environmental Impact Assessments is recommended), but any mismatches in the review periods of CMSs, the NWRS, and forward plans under the Spatial Planning White Paper will create significant difficulties.

V.C Scotland²⁷⁰

V.C.1 Institutional Framework

Unlike South Africa, Scotland looks set to implement a relatively centralised water management administration. This section will look at the institutions created, but given the uncertainties relating to the optimum management level,²⁷¹ assessment of their capabilities will be made in the next section regarding public participation. As detailed above, the WFD requires that appropriate administrative arrangements be put in place for each River Basin District.²⁷² In implementing such

266. NWA, *supra* note 100, s.10(6).

267. *Id.* s.41(2)(c).

268. *Id.* s.22(4).

269. MINISTRY OF AGRICULTURE AND LAND AFFAIRS, WISE LAND USE: WHITE PAPER ON SPATIAL PLANNING AND LAND USE MANAGEMENT (July 2001), available from the South African Government website, at <http://www.gov.za/whitepaper/2001/spatialplanning.htm> (last visited June 19, 2003). In the international context, see ROYAL COMMISSION ON ENVIRONMENTAL POLLUTION, 23RD REPORT ON ENVIRONMENTAL PLANNING, (London, Mar. 2002), with regard to similar recommendations on coherence and co-ordination in England and Wales, available at <http://www.rcep.org.uk/epreport.html> (last visited June 19, 2003).

270. It should be borne in mind that the following sections were prepared prior to the finalisation of the Water Environment and Water Services (Scotland) Act 2003, *supra* note 178. For a brief summary of the changes made to the Water Bill, see *supra* note 179.

271. See *supra* note 230 and *infra* note 337.

272. WFD, *supra* note 172, art. 3(2).

arrangements, Scotland intends to create only one principal RBD,²⁷³ which will be administered at the national level by SEPA.²⁷⁴ As SEPA retains its powers of licensing, albeit with expanded coverage when the relevant enabling regulations come into being, the additional responsibilities given to it under the Water Bill do not specifically mention licensing. Under the Bill, SEPA's new responsibilities will also include the following:

- Carrying out a characterisation exercise (and subsequent reviews thereof) for each river basin, assessing: the characteristics of the water environment; the impact of human activity on water resources; and the economics of water uses;²⁷⁵
- Prepare and maintain a register of protected areas;²⁷⁶
- Monitoring of each RBD;²⁷⁷
- Prepare and disseminate a River Basin Management Plan for each RBD,²⁷⁸ and reviews thereof;²⁷⁹

Regulation-making power remains with the Ministers, although they are obliged to take account of the views of SEPA, and others, in making such regulations.²⁸⁰ There will be no river basin specific-bodies, and local management will be done by SEPA in terms of the RBMP (including any watercourse-specific environmental objectives contained therein) and any other sub-basin plans that SEPA deems necessary for particular purposes.²⁸¹

Scottish Water is under an obligation to provide water supply and sewerage services to the bulk of the population: "It shall be the duty of Scottish Water to provide a supply of wholesome water to every part of its limits of supply where a supply of water is required for domestic

273. See *supra* note 201. There will be additional RBDs for those river basins that are shared with England. At this stage, prior to agreement regarding the final form of such RBDs, it is not possible to speculate on how environmental objectives for these might differ from the principle RBD. A consistent strategy at national level is consequently impossible to predict.

274. See PROPOSALS FOR LEGISLATION, *supra* note 177, ¶¶ 1.12-13. No specific mention is made in the Water Bill regarding SEPA's predominant role.

275. Water Environment and Water Services (Scotland) Bill, *supra* note 179, s.5.

276. *Id.* s.7.

277. *Id.* s.8.

278. *Id.* s.10.

279. *Id.* s.14.

280. *Id.* ss.19-21.

281. *Id.* s.15.

purposes and can be provided at a reasonable cost."²⁸² The overall administration of water management and supply in Scotland will therefore be in the hands of two centralised bodies, SEPA and Scottish Water. Scottish Water is able to levy charges on occupiers of premises for the provision of water supply and sanitation services,²⁸³ but local authorities recover these charges as part of local property taxation,²⁸⁴ the charges increasing with the value of the property.

V.C.2 Public Participation

The issue of public participation is inexorably linked in Scotland with the administrative arrangements set up under both the Water Industry (Scotland) Act and the Water Bill. A number of other institutions have been or will be established to address consultation and accountability matters.

The water management regime is bound to conform to the strictures of the WFD in terms of meeting the environmental objectives²⁸⁵ and the public participation standards contained therein.²⁸⁶ Pursuant to the latter, the Water Bill provides that "[e]ach river basin district is to have one or more River Basin District Advisory Groups"²⁸⁷ for the purposes of advising SEPA on the preparation of RBMPs, membership of which is to be set by SEPA from a pre-determined list of representative groups, ensuring "appropriate representation" of each.²⁸⁸ The stated intention in the last consultation document²⁸⁹ was for a network of standing consultative fora to be established, but this has not been created in the Water Bill. The RBDAGs, as the Bill currently stands, are to advise on the preparation of RBMPs only and will have no mandate to advise on any other matter. No other body is to be created to provide an

282. Section 6(1) of the Water (Scotland) Act 1980 (as amended by the Water Industry (Scotland) Act 2002, sch.6, ¶ 3(5)(e)). Scottish Water is also obliged to have special regard to the interests of rural and remote parts of Scotland under section 49 of the Water Industry (Scotland) Act 2002, *supra*, note 90, although the "reasonable cost" qualification will still apply.

283. Water Industry (Scotland) Act 2002, *supra* note 90, ss.29 and 35.

284. Local authorities may recover these charges under s.37 of the Water Industry (Scotland) Act 2002, *supra* note 90.

285. Art.3(2) of the WFD. *supra* note 172, states, "Member States shall ensure the appropriate administrative arrangements...for the application of the rules of this Directive within each river basin district lying within their territory."

286. *Id.* art. 14.

287. Water Environment and Water Services (Scotland) Bill, *supra* note 179, s.17(1).

288. This list is set out in s.11(6)(a)-(i), but note that under s.17(4), the list of representatives is chosen from only those groups indicated in ss.(a)-(h).

289. See PROPOSALS FOR LEGISLATION, *supra* note 177, ¶ 1.23. It should be noted that private water supplies are currently regulated by local authorities, but see *supra* note 90 for further details regarding recent consultations on changing this situation.

ongoing and formal public overview of water management in Scotland. It should be stressed at this point that the Water Bill has yet to be subjected to the full critical scrutiny of Parliament and is likely to change when this process is complete.

As regards consultation measures to be undertaken by the Minister, when drawing up regulations regarding controlled activities,²⁹⁰ he must consult with SEPA and such other bodies and persons as he thinks appropriate.²⁹¹ There is consequently no duty to provide open public consultation, and neither are there rules regarding the level of consultation to be undertaken, although s.21(2) simply requires that regulations relating to the making of general binding rules be made available for public inspection.

Accountability of the water supply body is to be maintained by way of the Water Industry Commissioner (WIC), established under the Water Industry Act of 1999.²⁹² The WIC is responsible for "promoting the interests of customers"²⁹³ of Scottish Water. However, it should be noted that in the same legislation, further consumer bodies known as the Water Industry Consultative Committees (WICCs) were formed with the aim of representing the customers of each of the three water and sewerage authorities.²⁹⁴ With the amalgamation of these three authorities, there has been some confusion over the position of the successor bodies.²⁹⁵ The 2002 Act provides for the setting up of Water Customer Consultation Panels to represent customers' views,²⁹⁶ and these appear to replace the old WICCs, but no indication is given at this stage as to how many of these will be established or the geographical areas they will cover.

The Scottish Executive is bound by regulation at both the United Kingdom and European Union levels regarding the provisions of environmental information. The Environmental Information Regulations

290. For the purposes of determining the Basic and Supplementary Measures detailed in the WFD, art. 11. The controlled activities specified in the Water Bill are activities liable to cause pollution, abstraction of water, construction of impoundment works, any works that might impact water status, and activities connected to the foregoing. See Water Environment and Water Services (Scotland) Bill, *supra* note 179, s.20(2)-(3).

291. Water Environment and Water Services (Scotland) Bill, *supra* note 179, s.21(1), with the definition of "responsible authorities" being found in s.2(8).

292. Water Industry Act 1999, s.12, amending s.67 of the Local Government (Scotland) Act 1994. The WIC, but not the WICCs, is maintained in ss.1-6 of the Water Industry (Scotland) Act 2002, *supra* note 90.

293. Water Industry (Scotland) Act 2002, *supra* note 90, s.1.

294. Water Industry Act 1999, *supra* note 292, s.12(1).

295. The WIC website, at <http://www.watercommissioner.co.uk/>, shows that the last meetings of the regional bodies took place last year, prior to the recent merger of the water authorities, and no further indications are given regarding the new status of the WICCs. There are no separate websites for these bodies, and advertisement of forthcoming local meetings is done in the local press.

296. Water Industry (Scotland) Act 2002, *supra* note 90, s.2.

of 1992²⁹⁷ require that any person²⁹⁸ holding environmental information²⁹⁹ "shall make that information available to every person who requests it."³⁰⁰ This is a very limited right of access to information, but arguably fulfils at least one part of the standard required under Principle 10 of the Rio Declaration.³⁰¹ However, the United Kingdom is now under more onerous duties with respect to the actual participation of the public in the decision-making process: the recent Directive of the European Parliament and of the Council on public access to environmental information, which explicitly repeals Directive 90/313,³⁰² recently had its second reading in the European Parliament.³⁰³ It has the specific target of "paving the way" for the ratification of the Århus Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters,³⁰⁴ which is widely viewed as international best practice in public participation.³⁰⁵ Indeed, the EC, when signing the Århus Convention, stated that it would apply the convention in its existing and future environmental legislation, and there is therefore a strong argument that the WFD incorporates its terms, putting the Scottish Executive under an immediate obligation to apply it.³⁰⁶

297. Environmental Information Regulations 1992, S.I. no.3240 of 1992. These regulations were created under Directive 90/313/EEC on the Freedom of Access to Information on the Environment of June 7, 1990, O.J. L158, 23.6.1990, 56, at http://www.legislation.hmso.gov.uk/si/si1992/Uksi_19923240_en_1.htm.

298. For these purposes, a person is bound by the act if they are members of governmental departments at any level, public administrations, or bodies carrying out public functions. See Environmental Information Regulations, *supra* note 295, s.2(3).

299. "Environmental information" includes information regarding the state of the water environment. *Id.* s.2(2).

300. *Id.* s.3(1).

301. RIO DECLARATION, *supra* note 249.

302. Directive 2003/4/EC of the European Parliament and of the Council of 28 January 2003 on public access to environmental information and repealing Council Directive 90/313/EEC. *Official Journal L 041, 02/14/2003*, 26-32.

303. *Id.* article 11.

304. Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters, signed at Århus June 25, 1998, UN-ECE-CEP-43 (1998) (entered into force Oct. 30, 2001) [hereinafter Århus Convention], available at <http://www.unece.org/env/pp/documents/cep43e.pdf>.

305. See, for example, the introduction by Kofi Annan to the Århus Convention on the website of the UNECE, available at <http://www.unece.org/env/pp/> (last updated Mar. 9, 2003).

306. EC Declaration to the Århus Convention, *supra* note 304. The EC will not normally ratify international agreements until it has legislation in place that implements such agreements. Despite the new legislation, the EU has not yet ratified the Århus Convention. See the UNECE website, *supra* note 305, for ratification information.

The Århus Convention sets out minimum requirements³⁰⁷ regarding the provision of information, public participation in decisions relating to plans or activities affecting the environment, and access to justice. Even these, however, may not be sufficient to meet the standards required by the WFD. The Convention stops short of setting out specific provisions requiring ongoing public participation, focusing instead on decision-making processes at the initial planning stages, including, for example, decisions relating to activities necessitating environmental impact assessments and environmental planning. Public overview of the subsequent processes implementing those plans or responsible organisations is neglected. It is this further "active involvement" of the public in the implementation of the WFD³⁰⁸ that is missing from the Water Bill, as the involvement of the public does not appear to extend beyond the RBMP preparation stages.

With regard to dispute resolution, no definite proposals are contained in the Water Bill, although the Scottish Executive does state that "effective checks and balances in the process will be important in maintaining the requisite "robust" system."³⁰⁹ Further consultations are to be made on the issue. Currently, appeals against consents under the Control of Pollution Act³¹⁰ are to the Minister, who, in the event that he finds in favour of the appellant, can direct SEPA to change its decision, and SEPA is bound to do so.³¹¹ In certain circumstances, SEPA may also be obliged to pay compensation to appellants.³¹²

It is important to add that the general position regarding appeals to Ministers is developing rapidly, in the light of the right to a fair trial under the Human Rights Act of 1998,³¹³ which requires that hearings take place before "an independent and impartial tribunal."³¹⁴ Recent judgements have ruled that although a Minister, or his or her appointee, is neither independent nor impartial, his or her decisions in such administrative matters are subject to judicial review and are thereby consistent with the provisions of the Human Rights Act.³¹⁵

If the appeals systems in South Africa and Scotland are compared, we find one where the rights of the public are served by an

307. More rigorous standards may be set if desired. See Århus Convention, *supra* note 304, art. 3(5).

308. See WFD, *supra* note 172, art. 14(1).

309. RIVERS, LOCHS, COASTS, *supra* note 177, ¶ 3.32.

310. CoPA, *supra* note 87, s.39.

311. *Id.* s.39(4).

312. *Id.* s.39(5C)(b), as amended by Environment Act 1995, sch. 22, ¶ 29(15).

313. Human Rights Act 1998, sch.1, art. 6(1).

314. *Id.*

315. See, in particular, *R. (on the Application of Holding and Barnes Plc and others) v. Secretary of State for the Environment, Transport and the Regions* 2001 UKHL 23 and *County Properties Ltd. v. Scottish Ministers* 2002 S.C. 79.

independent review body, but with uncertain enforcement powers, and one with the opposite characteristics. If accountability is to be seen to be in place, the review body must be independent of any transitory political considerations and must have the enforcement powers necessary to uphold the credibility of those who are subject to its judgements. It is therefore to be hoped that the Scottish consultations, when they are published, offer the possibility of a separate forum, outside of the ministerial circle.

V.C.3 Co-ordination between Departments and Authorities

At the level of general duties, the Water Bill obliges all Ministers, public bodies, and officeholders to "have regard to the desirability of protecting the water environment" in the exercise of their functions.³¹⁶ It goes on to put the same entities under a duty to "have regard" to the relevant river basin management plan in carrying out any powers affecting a river basin district.³¹⁷ By including Ministers in this group, agricultural and forestry policies are affected, and public bodies, although undefined in the Bill, should encompass the planning authorities within its aegis.

Public bodies and public authorities are defined in a number of other pieces of legislation,³¹⁸ and the terms are generally understood to encompass local authorities, SEPA, Scottish Water,³¹⁹ and, importantly, at least with respect to farming, the Crofters Commission.³²⁰ The lack of a regulatory body with respect to agriculture in Scotland, other than the limited remit of the Crofters Commission, means that no single entity can be identified as being responsible for ensuring that the issues associated with diffuse pollution are addressed.

The problem of diffuse pollution, resulting from, for example, the use of fertilisers, must therefore be tackled at a number of levels, through ministerial policy, the work of SEPA in enforcing the RBMP,

316. Water Environment and Water Services (Scotland) Bill, *supra* note 179, pt. 1, ch. 1, s.2(5).

317. *Id.* pt. 1, ch. 2, s.16.

318. See, for example, the Human Rights Act 1998, especially ss.6(1), (3) and (5), where a public authority is deemed to include a "person certain of whose functions are functions of a public nature" (s.6(3)(b)), except where the nature of the act is private (s.6(5)); the Local Government (Goods and Services) Act 1970, s.1; the Freedom of Information (Scotland) Act 2002, sch.1; and finally, and most comprehensively, the Ethical Standards in Public Life etc. (Scotland) Act, 2000, sch. (including a long list of "devolved public bodies").

319. Water Industry (Scotland) Act 2002, *supra* note 90, s.61, amending the Local Government (Goods and Services) Act 1970. For SEPA and other local authorities, see also the definition of "public authority" in the Human Rights Act, *supra* note 318.

320. See Ethical Standards in Public Life (Scotland) Act, 2000, sch. 3.

and grant-giving bodies. This will result in a fragmented approach that is unlikely to be conducive to effective resolution of the problem.

In addition to the above duties, Parliament will soon be under an obligation to formalize the processes of coordination of strategic policy implementation with the advent of the directive on the assessment of the effects of certain plans and programmes on the environment.³²¹ Member states are bound to transpose this directive by July 21, 2004,³²² but as yet, no consultation process regarding its implementation has been started in any part of the United Kingdom.

The directive will compel government bodies at all levels to undertake an environmental assessment at the policy planning stage with regard to any plan or program that relates to the development of a number of specified industries or land uses that have a significant impact on the environment.³²³ Consultation must take place with any relevant environmental authorities and the public.³²⁴ The final decisions must be communicated to those same groups, along with detailed information regarding, among other things, the extent to which environmental considerations have been taken into account and reasons for why the final decision has been made.³²⁵ The aim behind the directive is to ensure that environmental considerations are taken into account at the highest level. How the legislation is transposed into Scots law and incorporated into current government procedure remains to be seen, but the impact will certainly be significant. It is a more powerful tool than anything currently applicable to South Africa, but its potential will only be fully realised if the procedures put in place are sufficiently rigorous.

321. Directive 2001/42/EC of the European Parliament and of the Council of 27 June 2001, 2001 O.J. (L 197) 30 (on the assessment of the effects of certain plans and programmes on the environment).

322. *Id.* art. 13(1).

323. *Id.* art. 3(1)-(2). The relevant industries and land uses are as follows: agriculture, forestry, fisheries, energy, industry, transport, waste management, water management, telecommunications, tourism, town and country planning, and land use.

324. *Id.* art. 3(2).

325. The full information quota required under the directive is

(a) the plan or programme as adopted;

(b) a statement summarising how environmental considerations have been integrated into the plan or programme and how the environmental report prepared pursuant to Article 5, the opinions expressed pursuant to Article 6 and the results of consultations entered into pursuant to Article 7 [international consultations] have been taken into account in accordance with Article 8 and the reasons for choosing the plan or programme as adopted, in the light of the other reasonable alternatives dealt with, and

(c) the measures decided concerning monitoring in accordance with Article 10.

Id. art. 9(1).

VI. PROSPECTS FOR A NATIONAL WATER LAW MODEL

VI.A Introduction

The question posed at the start of this article asked whether or not it was possible to establish a generic model for national water law from the developments in Scotland and South Africa, one which could be applied to any nation, irrespective of climate, legal context, and economic status. The general feeling amongst commentators and international practitioners is that such a model is not possible, at least at the institutional level.³²⁶ However, it is striking that the models adopted in both Scotland and South Africa do not differ significantly from each other. The emphasis of the objectives is certainly different, but the means for carrying out these policies are surprisingly similar, both at the substantive and the procedural levels.

TABLE 2

| | Scotland | South Africa |
|------------|---|---|
| Ownership | Common use of flowing water; distinction between publicly and privately owned waters. | Public ownership of all waters, administered by Government as Trustee. |
| Allocation | Riparian rights. Right to reasonable use for primary purposes without licence, but mechanically-removed water will be subject to controls, along with all other water uses. More than 98% of the population receive water supply from the Scottish Water. | Equitable allocation and beneficial use in the public interest, "while promoting environmental values." ³²⁷ Reasonable domestic use permitted as a right; all other uses subject to licensing or registration. Reserves to be set to ensure domestic supplies and ecosystem protection. Around 84% able to receive water from Water Services Provider. ³²⁸ |

326. See, e.g., Caponera, *supra* note 1, at 175: "the institutional framework of each country depends not only on its historical, cultural, religious, geo-physical and legal factors, but also on the political will to undertake...needed administrative or institutional reform"; See also ARRIËNS ET AL., *supra* note 214, at 53, for Asian Development Bank Recommendations ("Specific water issues and country conditions should determine appropriate approaches and solutions in each country.").

327. *Supra* note 2.

328. Seven million people are still without access to water infrastructure, roughly 16 percent of the population. See Kasrils, *supra* note 6. Please also note the definition of basic water supply, *supra* note 116, illustrating that the differences between Scotland and South Africa are larger than they appear from these figures—it is unclear how many of those supplied with water in South Africa receive their supply from a standpipe 200 m from their

(Table 2 continued)

| | Scotland | South Africa |
|---|---|---|
| Environment | Environmental objectives set and ecological standards prescribed for receiving waters, in addition to chemical standards. Groundwater abstractions to be balanced with recharge rates. | Ecological Reserve level to be established in relation to receiving waters. Human right to healthy environment. |
| Water Quality | River-basin specific environmental objectives to be set, to attain "good" quality. Pollution lawful only with licence, principally issued by central body, SEPA. | Catchment-based management regime. Resource quality objectives set according to classes of receiving waters. Pollution lawful only with appropriate licence, which will be issued by CMAs. |
| International Structure | Regulation: National regulator (SEPA) Water and Sanitation Services Supply: Water supplied by Scottish Water; Water Industry Commissioner Local Advisory Groups: River basin authority groups; WICCs Judicial Bodies: No dedicated body | Regulation: National policy and strategy making body (DWAF) Catchment Management Agencies, licensing and catchment strategy bodies. Water User Associations Water and Sanitation Services Supply: Water supplied by local authorities, and ultimately from Water Boards. Local Advisory Groups: Catchment management fora Judicial Bodies: Water Tribunal |
| Co-ordination provisions | SEPA is lead authority. Ministers, public bodies and office-holders must have regard to the desirability of protecting the water environment, and responsible authorities must have regard to RBMPs. Directive 2001/42 will require formalisation of policy coordination. | Coordination between public authorities Constitutionally required. All relevant departments must be consulted re. CMSs. No procedures set out for such coordination. |
| Bodies responsible for international waters | Not applicable, though separate RBDs will be set up for rivers on the border with England. | Power to create such bodies—international obligations are accounted for in the Reserve and in licence applications. |

house. According to the South African Census of October 1996, 44.7 percent of households had piped water in their homes, 19.8 percent relied on a public tap, and the remainder were forced to obtain water from water carriers, streams, or boreholes. For more details, see Population Census 1996 (3d ed. 1999), available at <http://www.statssa.gov.za>. Results of the 2001 census are not yet available.

| | Scotland | South Africa |
|----------------------|---|--|
| Public Participation | Consultation exercises with regard to the RBMPs, along with unknown number of River Basin District Advisory Groups. No public representative body for overview of management. | Encouraged by Constitution. Catchment management for a established by Water Boards; Possible Standing consultation in each WMA, established by DWAF. |

VI.B Establishment of Comparative Standards

The creation of a model water law framework from national best practices requires criteria against which particular features may be measured. Fundamentally, this is a jurisprudential question, as it requires identification of "good" law. For the purposes of this article, I do not propose to undertake a detailed jurisprudential analysis of what makes "good" law. Instead, the approach adopted will be to assess the quality of the law as compared against the following four criteria, which, I would suggest, provide a fair measure of quality:

1. international practice, as manifested in other national practices around the world and in the opinions of internationally representative groups, including:
 - i) Relevant examples from national practice in nations with one or more similar national characteristics;
 - ii) National practice as indicated in the work of the Global Water Partnership (GWP);³²⁹
 - iii) National and regional practice as shown in the work of the ADB [Asian Development Bank];³³⁰
2. relevant writings of respected jurists;
3. international law, guidelines, statements and declarations, represented by the following examples of practice and principles:
 - i) Dublin Statement on Water and Sustainable Development³³¹

329. Information regarding the work of the GWP has been drawn from the GWP Toolbox on Integrated Water Resources Management, available at <http://www.gwpforum.org/> (last visited Sept. 9, 2003).

330. See ARRIENS ET AL., *supra* note 214.

331. *Dublin Statement on Water and Sustainable Development*, adopted at the International Conference on Water and the Environment, January 1992, at <http://www.gdrc.org/uem/water/dublin-statement.html> (last visited June 25, 2003) [hereinafter *Dublin Statement*]; see also, e.g., MIGUEL SOLANES & FERNANDO GONZALEZ-VILLARREAL, *THE DUBLIN PRINCIPLES FOR WATER AS REFLECTED IN A COMPARATIVE ASSESSMENT OF INSTITUTIONAL*

- ii) EU obligations and guidelines, where appropriate³³²
- iii) SADC Protocol³³³
- iv) Rio Declaration³³⁴
- v) Bonn Recommendations for Action³³⁵
- vi) Åarhus Convention³³⁶
- vii) Stockholm Statement, 2002;³³⁷ and

4. the success, or otherwise, of particular aspects of law in solving the problems they set out to cure, at a national level.

This fundamentally positivist approach is best suited to the present circumstances because the practical issues at the heart of water law demand practical solutions within the context of a state's international obligations. The jurisprudential merits of a system matter less to those who are in need of clean water and those who will implement the regime than a solution that measurably improves the situation. The above criteria are interlinked insofar as the first three will be closely related to the problem-solving capabilities shown at a national level, and international declarations or agreements should provide the ideal to which national practice aspires. Given the infancy of the reforms, assessment of their problem-solving capabilities will be difficult, and practices in other jurisdictions may shed light on their potential success or failure.

In addition to the above, it is essential to recognise that despite the differences in emphasis between principle and practice evident in the above sources of international law, two underlying themes can be identified throughout all of them.

- a) the necessity for integrated, holistic management of water resources at the river basin level is apparent throughout; and

AND LEGAL ARRANGEMENTS FOR INTEGRATED WATER RESOURCES MANAGEMENT, TAC Background Papers No. 3 (1996), available at <http://www.gwpforum.org/gwp/library/Tac3.pdf> (last visited Sept. 9, 2003).

332. Including, for example, *EU Development: Guidelines for Water Resources Development Co-operation—Towards Sustainable Water Resources Management*, available at http://europa.eu.int/comm/development/index_en.htm [hereinafter *EU Development Guidelines*].

333. SADC Protocol, *supra* note 157.

334. RIO DECLARATION, *supra* note 249.

335. Bonn Recommendations, *supra* note 258.

336. Åarhus Convention, *supra* note 304.

337. Stockholm Statement, *supra* note 5.

- b) the need for an equitable and participatory approach, incorporating transparent and accountable management and decision-making at the lowest appropriate level.³³⁸

The comparison below will therefore pay particular attention to these issues.

VI.C Comparison of Substantive and Procedural Aspects

VI.C.1 Ownership

Despite the importance of entitlement in water law, the sources above largely ignore the specific issue of who should own water resources, concentrating more on the matter of their allocation. As a result, the measure of whether an entitlement regime is good or not must be judged against its ability to fulfill the two underlying principles and its capacity for allowing the resolution of local problems.

In section IV above, it was shown that the civilian concept of common ownership of flowing water was of universal benefit only if it was allied with an extensive water supply network. A system that allows private watercourses to exist and that gives ownership of bodies of water to the owner of the land they lie on or under cannot form the basis of an equitable allocation mechanism and may therefore not be feasible in poor countries lacking piped water supplies. Scotland's approach could therefore not be replicated in poorer nations.

South Africa's common ownership, however, through the government as public trustee, is in a much better position to be able to fulfill the two requirements. As all water is now owned by the public, the government is in a position to address the problems of inequity through lack of access and is also better able to implement a program of integrated management because it can, if the allocation mechanism works properly, control all water uses for the benefit of all persons.³³⁹ No water will remain in private hands. Again, though, it may be argued that the public trust system is only as good as the access it provides and is hence not suitable for poor countries. This is true, but the advantage of the public trustee system is that it allows all water bodies to become available to all, assuming that appropriate access rights have been created, and this will be of greater importance in arid countries.

338. This is the case, for example, in the *Bonn Recommendations*, *supra* note 258, both the *Stockholm Statement*, *supra* note 5, and *Dublin Statement*, *supra* note 331, *EU Development Guidelines*, *supra* note 332, *ARRIËNS ET AL.*, *supra* note 214, and the experience shown by the *GWP*, *supra* note 213.

339. *Cf. NWA*, *supra* note 100, s.3(1).

VI.C.2 Allocation

Although some form of public ownership of water is common to both the public trust regime implemented in South Africa and prior appropriation systems, the latter cannot provide the basis for genuinely integrated management of river basins. The prior appropriation systems in place in the western United States have been described as allowing "the last drop of a stream to be diverted and depleted to satisfy prior rights"³⁴⁰ and existing only to serve the users of that water rather than the environment or the relevant watercourse. Although it relates to particular watercourses (as opposed to the river basins), it has no broader concern with the holistic management of that watercourse. The requirement of equity is absent as water use is restricted to those individuals owning water rights.³⁴¹

More importantly, however, the system of allocation operated in South Africa is such that the water use licences issued there are time-limited, unlike the perpetual rights in prior appropriation systems (assuming a beneficial use is maintained). It is also expressly provided in the NWA that a licence to use water is no guarantee that water of sufficient quantity and quality will be available.³⁴²

Despite the suggestion that riparian regimes provide a rudimentary level of protection of the water environment by default,³⁴³ integrated, holistic management is not possible in such administrations as the riparian owners are entitled to "reasonable use." Additionally, the use and abuse of ground water by landowners can only be controlled if an efficient and extensive monitoring network is in place. Poor countries are therefore excluded. The regulated riparianism in states such as Minnesota³⁴⁴ is also inadequate insofar as it does not provide integrated management due to the lack of focus on land uses.

The implementation of Integrated Water Resources Management on a catchment basis (as recommended by the Dublin,³⁴⁵ GWP,³⁴⁶ ADB,³⁴⁷ Stockholm,³⁴⁸ and Bonn³⁴⁹ recommendations along with the EU

340. Tarlock, *supra* note 130.

341. For more information on the characteristics of the Prior Appropriation system, see ROBERT E BECK, *WATER AND WATER RIGHTS* ch. 12 (1991).

342. NWA, *supra* note 100, s.31.

343. Tarlock, *supra* note 130 ("Historically water law was a static doctrine that promoted watershed conservation by preserving the natural flow, although the common law has generally performed this function only by default.").

344. *Id.*

345. *Dublin Statement*, *supra* note 331.

346. GWP, *supra* note 213.

347. See ARRIÈNS ET AL., *supra* note 214.

348. *Stockholm Statement*, *supra* note 5.

349. *Bonn Recommendations*, *supra* note 258.

Development guidelines³⁵⁰), using integrated, holistic, and coordinated policies means that allocation of water resources must be done on the "lowest, most appropriate, administrative tier."³⁵¹ As discussed above, South Africa will issue water use permits at the catchment level, but Scotland will have a central allocation system based on the environmental objectives of individual basins. This raises the question of what the optimal size of these basin organisations should be³⁵²—some basins are too small for one dedicated allocation organisation, but equally, if basin management is to be successful, some sort of allocation mechanism at that level is necessary. Neither system having had the chance to prove itself, the answer is impossible to gauge at this stage, but this raises the further question of how the performance of a particular regime should be measured.

In the EU context, performance can be directly linked to legislative requirements, but this does not apply to those countries outside the EU. The Organisation for Economic Co-operation and Development (OECD) has a set of performance indicators,³⁵³ but again, this applies only to rich nations. Beyond, this performance can only be set against domestically applied standards, and the danger is that low targets are established to guarantee success, rather than setting higher standards with a commensurately increased risk of failure to match them.

The related issue of the participatory nature of the administrative structure must also be resolved. If it is accepted that "it is much easier to engage the interest of members of the public and community groups in localised rather than strategic issues,"³⁵⁴ administrative organisations must be as local as it is possible to be without compromising the consistency of the strategy for the basin as a whole. That is not to say that allocation organisations must necessarily exist at the same level as participatory fora, but a balance must be struck. This balance, whether achieved by coordination processes or by the size of the relevant organisation, must ensure that both local participation in local decision-making and the coherence and consistency of basin

350. *EU Development Guidelines*, *supra* note 332.

351. *Id.* at 5.

352. In the Scottish consultations, it was suggested that a single RBD would be the best approach to ensure compliance and alignment with other national plans, as opposed to the three RBD system initially proposed by the Executive. See PROPOSALS FOR LEGISLATION, *supra* note 177, at 4.

353. These performance indicators are available from the OECD Environment Directorate website at http://www.oecd.org/departement/0,2688,en_2649_34283_1_1_1_1_1,00.html.

354. PROPOSALS FOR LEGISLATION, *supra* note 177, ¶ 1.25. The paragraph continues, "[w]e recognise that it might be difficult to engender the participation of all interested parties even in the regional fora."

management are upheld.³⁵⁵ As an adjunct to the public ownership and control of water above, it must be the case that such ownership is the best method of ensuring that allocation regulations enforce and implement a consistent integrated policy.

In its quest for equity,³⁵⁶ South Africa has recognised that many people there cannot afford to pay for a water supply and has introduced the concept of Free Basic Water, whereby those in the areas affected receive the first 6000 litres of water free, paying only for the amount used above this level.³⁵⁷ It is clear that a policy such as this is only open to relatively wealthy nations, with the capacity to either fund such subsidies themselves or rely on cross-subsidisation from the country's rich. Moreover, this must also be the case for governments seeking to impose a centrally controlled allocation regime, as this requires both the institutional structure to do so, the means to enforce allocation requirements, and accurate monitoring. Questions have been raised regarding the success of the Free Basic Water scheme—most notably, McDonald has recently drawn attention to the fact that around half a million people had their water supplies cut off in the last three months of 2001, following the introduction of the Free Basic Water campaign.³⁵⁸ It should be noted, however, that the government is still at the implementation stage of the campaign—57 percent of the population lives in areas administered by local authorities that have signed up to it.³⁵⁹ This does not mean that the system is in place as the local authorities involved are in many cases still putting the necessary financial provisions in place.

355. Following principle 1 of the Stockholm Statement in requiring that "[c]oherent policies, across sectors and administrative/spatial units, are fundamental for systematic and proactive resource management." *Stockholm Statement*, *supra* note 5. The protection of the environment is also explicitly provided for in the RIO DECLARATION, *supra* note 249, principle 4.

356. And also in recognition of the fourth of the Dublin principles, *Dublin Statement*, *supra* note 329, that water is an economic good.

357. For further information, see the DWAF Free Basic Water website, at <http://www.dwaf.gov.za/FreeBasicWater/>.

358. David A. McDonald, *The Bell Tolls for Thee: Cost recovery, cutoffs and the affordability of municipal services in South Africa* 11 (Mar. 2002), available at <http://qsilver.queensu.ca/~mspadmin/>. Other figures in the same report point to 10 million water people having been affected by their water supplies being cut off. This should be qualified by the fact that it is unclear if these are 10 million different people: nor is it clear how long these cut-offs lasted. Personal email correspondence between Dr. McDonald and the author (Aug. 6, 2002) (on file with author).

359. See DWAF Free Basic Water website, *supra* note 357.

VI.C.3 Environmental Protection/Water quality

The aim of reducing and preventing pollution is present in a number of international declarations.³⁶⁰ In the absence of any binding international environmental standards,³⁶¹ a state's performance in preventing pollution can only be measured against targets set at national or regional levels, if the latter exist, and against the broader aims of international agreements. In the context of South Africa and Scotland, it may be asked if elements of the approach taken by each are integral to ensuring that environmental and water quality targets are met.

South Africa has utilised the techniques of the ecological reserve and the human right to the environment in pursuit of these aims, in addition to the licensing regimes adopted by both it and Scotland. The levels of the ecological reserve have not yet been enunciated, but, aside from the question of the correct level of the reserve, it may be the case that a technique of this type is useful from a transparency perspective. However, the same practical result could equally be achieved through the criteria used in the licensing regime. Both Scotland and South Africa will operate their permit system on the basis of the quality of the receiving waters, so it does not appear that the reserve offers any significant benefits, although this may not be the case with respect to the human needs Reserve.

The next question is whether or not a human right to both a healthy environment and adequate water supply, or equivalents, are necessary. Boyle is sceptical as regards the right to a healthy environment, stating that "while it may be true that adequate environmental quality is an essential condition for the enjoyment of human rights, it is less obvious that a substantive right to environmental quality is an essential condition for the protection of the environment."³⁶² This extends to the supply of water as well: a right is of no use if it cannot physically be achieved, whether because of financial or physical obstacles. The human rights to the environment and to water constitute more of a symbolic statement of intent than a practical effort to provide

360. See, e.g., *Stockholm Statement*, *supra* note 5, at 5; *Dublin Statement*, *supra* note 331, Guiding Principles; *Bonn Recommendations*, *supra* note 258, no. 8.

361. In relation to the difficulty in setting global standards, see in particular the RIO DECLARATION, *supra* note 249, principle 11: "States shall enact effective environmental legislation. Environmental standards, management objectives and priorities should reflect the environmental and development context to which they apply. Standards applied by some countries may be inappropriate and of unwarranted economic and social cost to other countries, in particular developing countries."

362. A. Boyle, *The Role of International Human Rights Law in the Protection of the Environment*, in HUMAN RIGHTS APPROACHES TO ENVIRONMENTAL PROTECTION 57 (A. Boyle & M. Anderson eds., 1998).

these facilities.³⁶³ It must be seen as part of a more general process to increase access to justice and improve environmental conditions. It is the pursuit of these general processes that will achieve the aims of the underlying international principles rather than introduction of such human rights approaches.

VI.C.4 Institutional Framework

This is the aspect of water law that is most likely to be affected by the conditions in each country.³⁶⁴ Caponera's statement that "the main purpose of a water resources administration is to ensure the successful implementation of a government water resources policy and to achieve, according to the stated policy, the most 'economic' and/or 'social' and/or 'rational' use, development and conservation of waters available in any country"³⁶⁵ is only half true: taking into account the underlying principles detailed above, the administration must also be transparent, and accountable, and make decisions at the appropriate level. It must also ensure that coordinated decision making accomplishes "integrated solutions."³⁶⁶

In Scotland, SEPA's responsibility for controlling pollution in all media and its increased powers under the Water Bill relating to control of diffuse pollution are likely to lead to better and more integrated pollution control than in South Africa because the DWAF will effectively only look at the water environment.³⁶⁷ The rest of the environmental protection administration in South Africa is spread between a number of different departments and does not appear to be effectively enforced.³⁶⁸ Many of the authorities recommend the establishment of an apex body for coordination purposes,³⁶⁹ but the benefits of such a body over

363. And, according to Glazewicz, a recognition that a successful transition to democracy could not be achieved without addressing issues of environmental quality. J. Glazewicz, *Environmental Rights and the New South African Constitution*, in HUMAN RIGHTS APPROACHES TO ENVIRONMENTAL PROTECTION 179 (A. Boyle & M. Anderson eds., 1998).

364. Only Caponera goes as far as to suggest a possible structure. CAPONERA, *supra* note 1, at 178-80.

365. *Id.* at 169.

366. See *Stockholm Statement*, *supra* note 5, principle 4.

367. Both countries therefore comply with Caponera's proposed central water administration, although his idea suffers from the same lack of overall integrated environmental management as the DWAF.

368. See DEPARTMENT OF ENVIRONMENTAL AFFAIRS AND TOURISM WHITE PAPER ON INTEGRATED POLLUTION CONTROL AND WASTE MANAGEMENT FOR SOUTH AFRICA, no.227, Mar. 2000, Foreword (describing the pollution regime as "fragmented and uncoordinated"), available from the South African government's website, at <http://www.environment.gov.za/>.

369. See, e.g., EU Development Guidelines, *supra* note 332, at 4-5; GWP Toolbox, *supra* note 213, at B1.03 National Apex Bodies; ARRIËNS ET AL., *supra* note 214, at 55. See also

rigorous coordination procedures between departments is by no means certain. Neither South Africa nor Scotland has such procedures in place, but this is largely because regulation in such detail has yet to take place. Directive 2001/42 will provide this in Scotland, but its effect remains to be seen.

The South African innovation of the Water Court is the other significant difference between the Scottish and South African experiences. This has the benefit of allowing complex issues to be assessed by those qualified to do so, including lay persons with technical knowledge.³⁷⁰ However, it has also been suggested that environmental courts in general detract from the general purpose of educating all.³⁷¹ If the arguments in favor of such a specialist court are accepted though, the idea of limiting such a court to purely water-related matters must be at least questionable in terms of attaining a truly integrated water resource management policy. If this aim is to be met, such a specialist court must include jurisdiction over environmental issues as well. South Australia has a potential model for this in the shape of its Environmental Resources and Development Court (ERD Court). The powers of the ERD Court are broader than those of the Water Court in that it can hear cases involving all areas of environmental management. Furthermore, it can issue interdicts, order payment of damages, and hear appeals regarding licence applications and variations.³⁷²

VI.C.5 Public participation

This is seen as one of the principal objectives of integrated water resource management, and therefore good practice in this area is particularly important. As has been shown above, both Scotland and South Africa have established procedures and entities that provide access to environmental information and a degree of transparency in terms that appear to fulfill the provisions of both the Rio Declaration and Åarhus convention. However, the need for the "active involvement" of the public in the implementation of the WFD implies something more than simple consultation and information provision. The WFD provision is not alone in its demands and reflects the views stated in the Bonn

Caponera's suggestion for a National Water Resources Council as the cross-department policy maker, CAPONERA, *supra* note 1, at 179.

370. See further discussion of the Water Court, *supra* notes 252-257 and accompanying text.

371. See, e.g., PAUL STEIN, *A Specialist Environmental Court: An Australian Experience*, in PUBLIC INTEREST PERSPECTIVES IN ENVIRONMENTAL LAW 258 (David Robinson & John Dunkley eds., 1995).

372. See generally, South Australian Water Resources Act 1997, s.141-14.

recommendations³⁷³ and the Stockholm Statement.³⁷⁴ The contributors to the GWP also make the point that regulatory authorities must have legitimacy and credibility:³⁷⁵ this can only happen, especially in countries where corruption is a problem,³⁷⁶ when the public oversees the regulator.

Once again, a possible model for the continued participation of the public in overseeing the environmental administration is provided by South Australia. The Water Resources Council, created in 1997,³⁷⁷ is mandated to assess the progress made by local and catchment management organisations in meeting relevant strategy objectives. The five members are representative of particular stakeholder groups and experts,³⁷⁸ and they are empowered to recommend changes in the event that progress is poor. Scotland and South Africa lack such a body and such oversight with regard to water management, although Scotland's WIC exercises a much more limited version of the role with respect to water and sanitation supply. In countries with erratic enforcement of water laws, it is especially important that the credibility of the regulator and the system is firmly established as quickly as possible.

VII. CONCLUSION

On the basis of the findings of section VI, it appears that an ideal national water law framework might look something like this:

- Water should be owned by the public and administered by the government equitably and for the benefit of that public.
- Allocation should be based on equitable time-limited licensing, taking into account availability, water quality, and environmental objectives. Prior appropriation and riparian rights systems are not appropriate. Licensing should be done at the river basin level and should fulfill the objective of integrated water resource management.

373. "Water governance arrangements should...monitor the performance of public institutions...and invite civil society to plan an active role in these processes," Bonn Recommendations, *supra* note 258, n.12.

374. Principle 1 states that "[a]n ongoing dialogue between policy and decision makers and the users is of utmost importance." *Stockholm Statement*, *supra* note 5.

375. GWP Toolbox, *supra* note 213, Main Features 3.

376. An indication of the levels of perceived corruption in a large number of countries, many of whom have water management problems, can be found at the website of Transparency International in their recently published *TI Corruption Perceptions Index 2002*, available at http://www.transparency.org/pressreleases_archive/2002/2002.08.28.cpi.en.html. South Africa is joint number 36 of 102; the United Kingdom is number 10.

377. The Water Resources Council was established by section 49 of the Water Resources Act, *supra* note 370.

378. Members are chosen by the Minister from water resources experts and from representative experts from farming, local government, and ecological and catchment management groups. *Id.* s.50.

- Environmental and water quality standards should be set at the national level and applied with reference to local conditions. International best practice points towards looking at environmental impacts of emissions rather than relying wholly on Emission Limit Values. Human rights to the environment and to adequate water are not necessary but may have valid political functions.

- Institutionally, a central regulator is better if it controls pollution in all media. This enhances the likelihood of successful integrated solutions and may also ensure better coordination. Coordination of policies between departments and agencies must be guaranteed through an apex body, or rigorous and transparent procedures. An environmental court is a useful tool for ensuring rapid access to justice overseen by experts, thereby enhancing public confidence. Water resource management cannot be approached in isolation from environmental management in general.

- Oversight of regulatory and licensing bodies is imperative, for reasons of transparency and accountability. A representative body should be established to assess progress toward the goals set in national and regional strategies. Active public participation is required to maintain the legitimacy and strength of regulatory and management bodies.

The above system is deficient in two fundamental ways: firstly, it does not provide water where there is none; and secondly, it relies on a certain level of wealth in order for it to be operable. With regard to the first objection, it should be remembered that the primary function of the legislative framework is "to ensure the successful implementation of a government water resources policy"³⁷⁹—the provision of water must be addressed in the policy. The necessity for funds is more fundamental.

It is arguable that a model that corresponds with what the donor countries want (one that contains safeguards against corruption, for example) is more likely to attract development money than one that does not. It may be, then, that the necessary finances could come from abroad. On this basis, it may be that the above framework is appropriate for poor countries. Such a framework could be viewed as an ideal, an aspirational structure. It is not fantastic, but may not be achievable by many countries immediately. However, in this context, ideals are not rare—both sustainable development and human rights to adequate water are goals worth attaining, although they may not be possible in the short term.

If the model is accepted as an ideal, the national climate would no longer be relevant—it is already being implemented to some degree in both Scotland and South Africa. If we return to Caponera's rationale

379. *Supra* note 365.

for rejecting a universal model, that the model "depends not only on its historical, cultural, religious, geo-physical and legal factors, but also on the political will to undertake...needed administrative or institutional reform,"³⁸⁰ the crux of the matter becomes apparent. In South Africa, the reforms were a complete break with the former system. They took place because the political will existed. The participants in the ADB's workshop favoured a gradualist approach to water reform.³⁸¹ This is generally indicative of the problems of the political world that prefers not to countenance big changes, as the interests of those who hold power and land are most likely to suffer. In his speech to the delegates at the Stockholm Symposium in August, Ronnie Kasrils recognised this when he said, "But I state very clearly—we can deliver clean drinking water and adequate sanitation to the people of the world IF WE TRULY WANT TO, IF WE HAVE THE POLITICAL WILL TO DO SO."³⁸²

However, the model is almost certainly too bureaucratically top-heavy to work effectively in poor nations, and, consequently, another framework will be necessary for those hardest hit by water problems. The received opinion that the frameworks adopted by each nation will depend on that country's particular circumstances would therefore appear to be true. Following the experience of South Africa and Scotland, it seems untrue with respect to climate, though. The dividing characteristic is wealth. Whether or not poor countries can benefit from an integrated water management system, however, may ultimately depend on the political will of rich countries to help them.

380. *Supra* note 326.

381. ARRIËNS ET AL., *supra* note 214, at 43.

382. See Kasrils, *supra* note 6.

APPENDIX

TABLE 1

| Section of the Act | About what | Who must consult | With whom |
|--|--|-------------------------------|---|
| 5 | The establishment of the National Water Resource Strategy | The Minister | Interested persons. |
| 8 | The establishment of a Catchment Management Strategy | A Catchment Management Agency | Interested persons. |
| 10 | The development of a Catchment Management Strategy | A Catchment Management Agency | The Minister, Organs of State, Interested persons. |
| 13 | Determination of the class of a water resource & resource quality objectives | The Minister | Interested persons. |
| 16 | Determination of the Reserve | The Minister | Interested persons. |
| 36 | Declaration of stream flow reduction activities | The Minister | Interested persons. |
| 38 | Declaration of controlled activities | The Minister | Interested persons. |
| 39 | Issuing a general authorisation to use water | A responsible authority | Interested persons. |
| 41 | A licence application | The applicant | Relevant Organs of State, Interested Persons, the general public. |
| 43 | The requirement to apply for a licence in terms of a compulsory licensing exercise | A responsible authority | Interested persons. |
| 45 | A proposed allocation schedule | A responsible authority | Interested persons. |
| 56 | The establishment of a pricing strategy for water use charges | The Minister | Interested persons. |
| 69 | Making regulations | The Minister | Interested persons. |
| Regulations must also be tabled in the National Assembly and the National Council of Provinces. | | | |
| 78 | The establishment of a Catchment Management Agency | The Minister | Interested persons. |
| This provision also applies to changes to the name or area of jurisdiction of a CMA, if the changes affect the rights of any person. | | | |

| Section of the Act | About what | Who must consult | With whom |
|---|---|-------------------------------|---------------------|
| 88 | The disestablishment of a Catchment Management Agency | The Minister | Interested persons. |
| 92 | The establishment of a Water User Association | The Minister | Interested persons. |
| The Minister need not undertake a programme of consultation if there has been sufficient consultation during the process of preparing a submission to establish the association. | | | |
| 96 | The disestablishment of a Water User Association | The Minister | Interested persons. |
| 110 | A proposal to construct a Government waterwork | The Minister | Interested persons. |
| This requirement does not apply to waterworks constructed in emergency circumstances, temporary waterworks which will be in operation for less than five years, and minor water works | | | |
| Schedule 3, Item 3 | Making rules to regulate water use | A Catchment Management Agency | Interested persons. |